



Task Orders 3 and 7 (Malaria):

FY2012 Annual Report

October 2011–September 2012



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USAID | DELIVER PROJECT, Task Order 3

The USAID | DELIVER PROJECT, Task Order 3, is funded by the U.S. Agency for International Development (USAID) under contract no. GPO-I-03-06-00007-00, beginning April 6, 2007. Task Order 3 is implemented by John Snow, Inc., in collaboration with PATH; Crown Agents Consultancy, Inc.; Abt Associates, Fuel Logistics Group (Pty) Ltd.; UPS Supply Chain Solutions; Family Health International; The Manoff Group; 3i Infotech; Center for International Health and Development (Boston University School of Public Health); and U.S. Pharmacopeia (USP). Task Order 3 supports USAID's implementation of malaria prevention and treatment programs by procuring, managing, and delivering high-quality, safe, and effective malaria commodities; providing on-the-ground logistics capacity, technical assistance, and pharmaceutical management expertise; and offering technical leadership to strengthen the global supply, demand, and financing of malaria commodities.

USAID | DELIVER PROJECT, Task Order 7

This document was prepared by staff of the USAID | DELIVER PROJECT, Task Order 7, which is funded by the U.S. Agency for International Development (USAID) under contract number GPO-I-00-06-0007-00, order number AID-OAA-TO-11-00012, beginning on March 28, 2011. Task Order 7 is implemented by John Snow, Inc., in collaboration with 3i Infotech, Inc.; Crown Agents USA, Inc.; FHI 360; Foundation for Innovative New Diagnostics; Logenix International, LLC; The Manoff Group, Inc.; MEBS Global Reach, LC; PATH; PHD International (a division of the RTT Group); Population Services International; Social Sectors Development Strategies, Inc.; UPS Supply Chain Solutions, Inc.; and VillageReach. Task Order support USAID's goal of reducing the malaria burden in sub-Saharan Africa by procuring and delivering safe, effective, and high-quality malaria commodities; by providing technical assistance and on-the-ground logistics expertise to strengthen in-country supply systems and build capacity for managing commodities; and by improving the global supply and long-term availability of malaria commodities.

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Abstract

This annual report documents the activities of Task Orders 3 & 7 (Malaria) during FY2012 (October 1, 2011–September 30, 2012). Key sections highlight the major activities under each objective—the accomplishments, the implementation issues, and proposed solutions.

Cover photo: Health clinic worker dispensing ACTs, Zambia, May 2010. USAID | DELIVER PROJECT.

USAID | DELIVER PROJECT

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Acronyms

ACT	artemisinin-based combination therapy
AIDS	acquired immune deficiency syndrome
AL	artemether/lumefantrine
ALMA	African Leaders Malaria Alliance
AMFm	affordable medicines for malaria
APE	community health worker
ARV	antiretroviral
AS/AQ	artesunate/amodiaquine
AutoDRV	automated Delivery/Receipt Voucher
BCC	behavior change communication
CAMEG	Essential and Generic Medicine Procurement Agency
CCB	Change Control Board
CDC	Centers for Disease Control and Prevention
CNC	Comité de Coordination Nationale
CHAI	Clinton Health Access Initiative
CHT	County Health Team
CMAM	Central de Medicamentos e Artigos Médicos
CML	Cargo Management Logistics
CMS	Central Medical Stores
COTR	Contracting Officer's Technical Representative
CPIR	commodity procurement information request
DDIC	Direct Delivery and Information Capture
DFID	Department for International Development
DHMT	District Health Management Team
DHO	District Health Office
DRC	Democratic Republic of Congo
EDI	Electronic Data Interface
EMLIP	Essential Medicines Logistics Improvement Program
EMMP	Environmental Mitigation and Monitoring Plan
ERP	Enterprise Resource Planning
EUV	End use Verification Activity

EKN	Embassy of the Kingdom of Netherlands
eLMIS	electronic Logistics Management Information System
FDA	Food and Drug Authority
FDC	fixed dose combination
FIND	Foundation for Innovative Diagnostics
FY	fiscal year
GAS	Gestion de l'Acquisition de Stock
GF	Global Fund
GFATM	The Global Fund to Fight HIV and AIDS, Tuberculosis and Malaria
GIS	geographic information system
GHS	Ghana Health Service
GMP	good manufacturing practices
GOM	Government of Mali
HIV	human immunodeficiency virus
HSA	health surveillance assistants
HTSS	Health and Technical Support Services
HWG	harmonization working group
IEE	Initial Environmental Examination
ILS	integrated logistics system
IMCI	Integrated Management of Childhood Illness
IQC	Indefinite Quantity Contract
IRS	indoor residual spraying
IPTp	intermittent preventative treatment in pregnancy
JSI	John Snow, Inc.
LGA	local government area
LLIN/LN	long-lasting insecticide-treated bed net
LMIS	logistics management information system
LMU	Logistics Management Unit
LTTA	long-term technical assistance
M&E	monitoring and evaluation
MCLS	malaria commodities logistics system
MIS	management information system
MISAU	Ministry of Health (Mozambique)
MMSCCT	Medicines and Medical Supplies Coordination Team
MMV	Medicines for Malaria Ventures

MOH	Ministry of Health
MOHCW	Ministry of Health and Child Welfare
MOHSW	Ministry of Health and Social Welfare
MOP	Malaria Operational Plan
MPDD	Medical Procurement and Distribution Division (Rwanda)
MSD	medical stores department
MSDS	material safety data sheet
MSH	Management Sciences for Health
MSL	Medical Stores Limited
NDS	National Drug Service
NGO	nongovernmental organization
NMCC	National Malaria Control Centre
NMCP	National Malaria Control Program
NSSD	national stock status database
OAA	Office of Acquisition and Assistance
PE	polyethylene
PET	polyester
PHCP	Primary Health Care Packages
PHLA	Public Health Logistics Advisors
PMI	President's Malaria Initiative
PMP	Performance Monitoring Plan
PPM	Pharmacie Populaire du Mali
PPMRm	Procurement Planning and Monitoring Report for malaria
PSACT	Private Sector ACT
PSC	parallel supply chain
PSM WG	Procurement and Supply Chain Management Working Group
QA	quality assurance
QASP	Quality Assurance Surveillance Plan
R&R	Report and Request forms
RBM	Roll Back Malaria
RDMA	Regional Development Mission Asia
RDT	rapid diagnostic test
RFP	Request for Proposal
RFQ	Request for Quote
SCM	Supply Chain Manager

SDLC	Software Development Life Cycle
SDP	service delivery points
SCMS	Supply Chain Management System
SCMU	Supply Chain Management Unit
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SLA	service level agreement
SLICE	Supply Chain and Logistics Internal Control Evaluation
SMS	short message service (text messaging)
SOP	standard operating procedure
SOW	scope of work
SP	sulphadoxine-pyrimethamine
SPS	Strengthening Pharmaceutical Systems
SRA	stringent regulatory authority
SSDM	Stores, Supplies and Drug Management
STTA	short-term technical assistance
TA	technical assistance
TB	tuberculosis
TFM	transitional funding mechanism
TMIS	Transactional Management Information System
TO	task order
TOT	training-of-trainers
TWG	technical working group
tx	treatment
UNICEF	United Nations Children's Fund
UPS	United Parcel Service
UPS SCS	UPS Supply Chain Solutions
USAID	United States Agency for International Development
USAID/W	United States Agency for International Development Washington Office
USG	United States Government
USP	United States Pharmacopeia
VMI	vendor managed inventory
WB	World Bank
WHO	World Health Organization
WHOPES	World Health Organization Pesticide Evaluation Scheme
ZIP	Zimbabwe Informed Push

Executive Summary

This annual report covers the period from October 1, 2011 to September 30, 2012; it describes the activities of Task Order 3 (TO3) and Task Order 7 (TO7)—jointly called Task Order Malaria (TO Malaria)—under the USAID | DELIVER PROJECT Indefinite Quantity Contract with John Snow, Inc. TO Malaria is part of the U.S. Government’s effort to fight malaria in sub-Saharan Africa through the President’s Malaria Initiative (PMI). The initiative works in 19 African focus countries and the Mekong region; it is led by the U.S. Agency for International Development (USAID). TO Malaria has a long-term presence in 11 of the PMI-focus countries, the Mekong region, and in two USAID malaria countries.

TO Malaria has three main objectives, under which all its activities are organized: (1) to improve, implement, and expand USAID’s provision of antimalarial commodities to country programs; (2) to strengthen in-country supply systems and their capacity for managing antimalarial commodities; and (3) to improve global supply and the availability of antimalarial commodities. The level of effort varies across the objectives: 50–60 percent for Objective 1, 30–40 percent for Objective 2, and 5–7 percent for Objective 3. To achieve these objectives, TO Malaria works in partnership with PATH; Crown Agents Consultancy, Inc.; Abt Associates; Ralit Total Transportation (RTT); UPS Supply Chain Solutions (UPS-SCS); Logenix International, LLC; MEBS Global Reach, LLC; FHI 360; The Manoff Group, Inc.; 3i Infotech; Center for International Health and Development (Boston University School of Public Health); U.S. Pharmacopeia (USP); Foundation for Innovative New Diagnostics (FIND); Social Sectors Development Strategies, Inc. (SSDS); VillageReach; and Population Services International (PSI).

Objective 1: Improve, Implement, and Expand USAID’s Provision of Malaria and Related Commodities to Programs Worldwide

Procurement

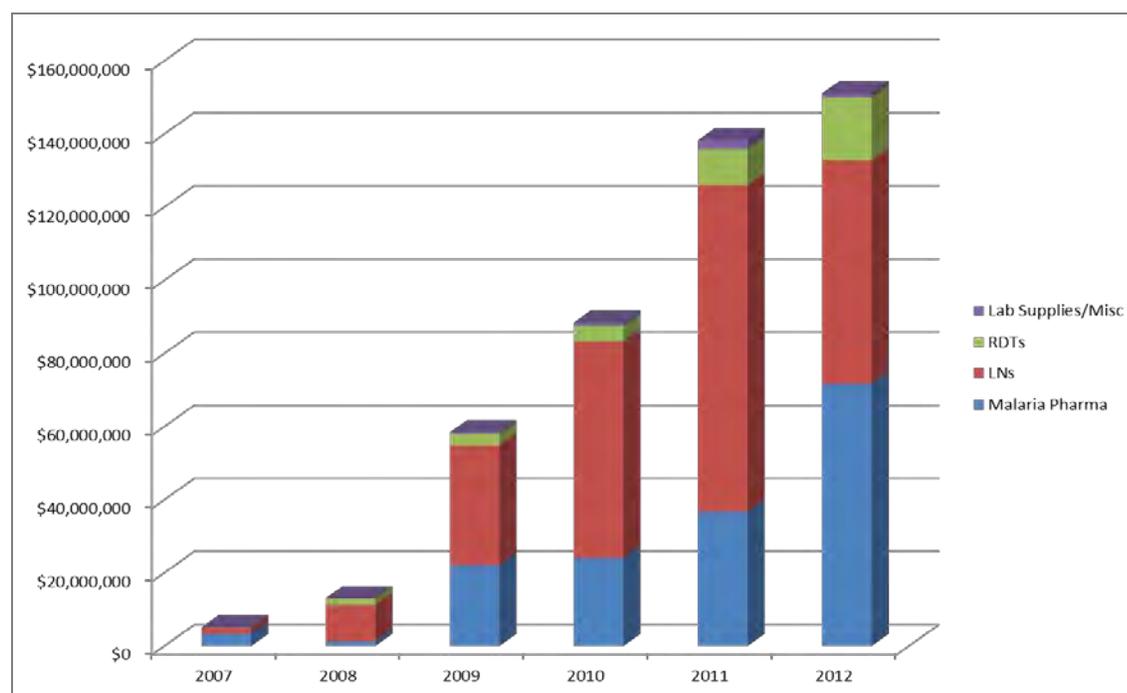
A primary activity of TO3 and TO7 is to support PMI by procuring malaria commodities in response to requests placed by the USAID missions; the requests are based on the needs outlined in the yearly Malaria Operational Plans (MOPs). During fiscal year 2012 (FY12), we processed requests for procurement assistance from 25 countries: Angola, Benin, Burkina Faso, Burundi, Cambodia, the Democratic Republic of the Congo (DRC), Ethiopia, Ghana, Guinea, Kenya, Laos, Liberia, Madagascar, Malawi, Mali, Mozambique, Myanmar, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.

During FY12, we received 223 procurement requests from 25 countries. A total of 272 orders were placed with vendors for a total value of U.S.\$150.9 million (commodity cost only). The value of the products procured during this period is 14 percent higher than in FY11. The number of orders placed increased by 68 percent compared to the number placed in FY12 (162). Total commodities procured are shown in figure 1.

Major procurement items included:

- 17.9 million long-lasting insecticide-treated bed nets (LLINs)
- 79 million artemisinin-based combination therapy (ACT) treatments: 42.9 million treatments of artemether lumefantrine (AL), 16.8 million treatments of generic AL, and 19.2 million treatments of fixed dose combination artesunate/amodiaquine (FDC AS/AQ)
- 30.9 million rapid diagnostic tests (RDTs)
- 14.7 million sulphadoxine-pyrimethamine (SP) tablets for intermittent preventative treatment in pregnancy (IPTp)
- 815,400 quinine-based treatments (tx) of tablets and injections for the treatment of severe malaria
- 650 microscopes and kits for malaria

Figure I. Total Commodities Procured, 2007–2012



Only vendors and manufacturers that pass internal requirements (good manufacturing practices [GMPs], product stability data, previous supply record, etc.) and/or are included on the PMI preselected list are invited to bid or quote. The selection of a vendor/manufacturer is based on one of several criteria (such as product price and timeliness of deliveries) in response to the Request for Quote (RFQ).

Challenges and Innovations

The demand for ACTs, including Coartem (AL), and Winthrop FDC AS/AQ continues to grow. PMI has been asked to fund an increasing number of *emergency* requirements where deliveries funded by other donors have been delayed for a variety of reasons. These factors have led to longer lead

times. In response, TO Malaria now manages its own inventory of Coartem and Winthrop FDC AS/AQ at the United Parcel Service (UPS) Roermond warehouse in the Netherlands. Over the reporting period, the project used the stock to respond to emergency orders from Burkina Faso, Ghana, Guinea, Liberia, Madagascar, Mozambique, Uganda, Tanzania, and Zambia. Additionally, TO Malaria continued to build upon our tactical approach of requesting countries to provide future ACT needs for 6 to 12 months in advance.

Freight Forwarding

From October 2011 to September 2012, the Task Order successfully forwarded commodities to support malaria programs in 25 countries. Per the new freight strategy for TO7, shipments are being competed and bids provided by the contracted freight forwarders for all shipments except those in which the vendor is expected to provide freight services. Through continued bidding of shipments, we have been able to obtain a cost savings of \$1,079,017.27 for FY12.

Quality Assurance

The project, through the quality assurance (QA) team, consistently works to ensure that high-quality, safe, and effective malaria products are provided. From October 2011 to September 2012, the QA team managed pre-shipment inspection and testing for 33 LLIN orders. Two new manufacturers of the Olyset net were added to the list of pre-qualified suppliers: A to Z Textile Mill and Net Health. For RDTs, the QA team managed pre-shipment inspection and testing for 45 orders. FIND supported all lot testing of RDTs. FHI 360 managed sampling, inspection, and testing of all generic AL from IPCA Laboratories.

Management Information System (MIS)

The MIS team supported the ongoing operations of TO7 and the closeout of TO3 by providing information on commodity needs, shipment requests and status, and financial accounts. The MIS is available continuously to authorized users from John Snow, Inc. (JSI); the United States Government (USG); and partners—both centrally and in the field—via a secure web-based user interface, the USAID | DELIVER PROJECT website. MIS reliability, availability, and ease of secure access are measured against a service level agreement (SLA), and we met or exceeded all standards in the reporting year.

Objective 2: Strengthen In-Country Supply Systems and Capacity for Effective Management of Malaria Commodities

Strengthening in-country supply systems and building greater capacity for improved management of malaria commodities at the local level are critical to the success of and to reaching the goals of PMI.

Improve System Performance, Thereby Ensuring that Malaria Products are Available When and Where They are Needed

Core-Funded Deliverables:

- Guidance document: *Addressing In-Country Supply Shortages of Malaria Commodities*
 - This core-funded deliverable offers seven different strategies for managing in-country supply shortages in order to maintain a continuous supply of key malaria commodities. The

strategies include (1) Review system parameters and reduce the quantity of stock held in the system; (2) Keep safety stocks at intermediary levels, reducing the safety stock held across all service delivery points (SDPs) and/or the central level; (3) Segment SDPs in the system based on lead times and resupply accordingly; (4) Closely monitor stock levels to redistribute stock between facilities; (5) Establish and disseminate procedures for borrowing stocks between facilities; (6) Focus supply where the burden of malaria is greater; (7) Resupply a percentage of the total requirement. The full document can be found on the deliver website: http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/AddrInCoSuppShor.pdf

- Guidance document: *Exploring Supply Chain Augmentation for Malaria Commodities*
 - This core-funded deliverable discusses the various reasons why a supply chain would need to be augmented and explores five options on how to do so. They are (1) procurement outsourcing, (2) distribution outsourcing, (3) kitting, (4) comprehensive outsourcing, (5) seconding staff. The full document can be found on the deliver website: http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/ExplSCAugmMala.pdf

Country Highlights

Ghana

The project is involved in strengthening the management of LLINs across a range of areas, including campaigns, post-hang-up validation exercises, LLIN bag disposal methods, and continuous distribution. The project developed appropriate approaches for the disposal of LLIN empty bags resulting from the LLIN hang-up campaigns in a manner consistent with USAID environmental standards and the Environmental Protection Agency of Ghana

Liberia

Throughout the year, the project supported the Montserrado County Health Team (CHT) in the use of the logistics management information system (LMIS), including roll-out of training, supervision visits, generating feedback reports, and data review and analysis. The project assisted the CHT in conducting a feedback meeting to discuss the performance of the integrated logistics system with the health facilities. It was found that there had been significant improvements in reporting rates, and by mid FY12 rates increased from 70 percent in June/July 2011 to 91.4 percent in April/May 2012.

Malawi

The project has been tasked with the design, implementation, and management of a parallel supply chain, which ensures that all available ACTs, RDTs, family planning commodities, and essential medicines get delivered to all health facilities every month, in addition to ensuring a high degree of visibility and accountability within the distribution system. Currently, the parallel supply chain (PSC) is managing the storage and distribution of antimalarial commodities (financed through the USG and The Global Fund to Fight HIV and AIDS, Tuberculosis and Malaria [GFATM]) and family planning commodities. In FY12 the following commodities were distributed through the PSC: 4,179,352 ACTs, 3,788,113 RDTs, and 800,000 tablets of SP.

Nigeria

The project continued to support Nigeria's ambitious LLIN campaign through the logistics workstream of the state support teams. The project supported states to assess storage and transport

options, conduct microplanning, track distribution, and supervise the campaign. Through April 2012, the project supported the distribution of 46.9 million LLINs to the community level in 31 states. This is the equivalent of 2,000 40-foot containers, which if lined up from end to end would run continuously for over 15 miles.

Zambia

To ensure availability for antimalarial drugs and other related health commodities at the SDPs by clients whenever needed, the project has been providing technical assistance in systems strengthening by implementing the Ministry of Health–approved national Essential Medicines Logistics Improvement Program (EMLIP). As of the end of FY12, EMLIP was rolled out in 26 of the 89 districts country wide.

Improve Visibility at All Levels of the Supply Chain, from Central Down to the Facility and Community Health Worker Levels

Core-Funded Work:

- End use Verification Activity (EUV): TO7 implements the EUV in PMI countries that have a project office. This activity improves the visibility of malaria systems in-country, particularly at the health-facility level, by using survey methodology to capture and report data pertinent to the supply and management of malaria products, as well as information about how malaria is being diagnosed and treated. The activity was introduced in Zimbabwe in June 2012. In addition to supporting countries, the EUV process was substantially revised and reinvigorated in 2012 in collaboration with PMI and Management Sciences for Health (MSH).
- Procurement Planning and Monitoring Report: The Procurement Planning and Monitoring Report for malaria (PPMRm) provides data on central-level stock availability for malaria commodities: ACTs, SP, and RDTs. The report is produced on a quarterly basis.

Country Highlights

Burkina Faso

The project provides technical support to the National Malaria Control Program (NMCP) on a quarterly basis for the analysis of data in the malaria database, which collects both logistics data and case management data. The facility reporting rate has increased from an average of 85 percent in October 2011 to 98 percent in June 2012. The percentage of health facilities with availability of all four ACT presentations has increased from 11 percent in October 2011 to 79 percent in June 2012. For RDTs, this has increased from 1 percent in October 2011 to 88 percent in June 2012.

Rwanda

The project supported the Ministry of Health (MOH) in Rwanda to enhance the routine use of geographic information system (GIS) outputs to manage and monitor the national health commodity supply chain. Mapping LMIS to their geographical locations will provide more visibility to the outputs of the supply chain system. In June 2012, a GIS capacity building workshop was held to provide an introduction to GIS within the context of supply chain management of health commodities.

Tanzania

The ILSGateway reporting system, a short message service (SMS)–based facility level stock status data collection tool, was rolled out to 1,600 of the 5,000 health facilities in Tanzania. The ILSGateway provides real-time stock status information on malaria commodities to decisionmakers throughout the supply chain. Results from the ILSGateway evaluation in November 2011 indicated that 97 percent of facilities improved their on-time submission rates for stock reports. A further 93 percent improved their stock counting exercises because of the routine mobile alerts they received. Importantly, 45 percent of facilities reported improved product availability, indicating the overall positive effect the ILSGateway has had on the medicine supply system in Tanzania.

Zimbabwe

The project continues to support the routine distribution of malaria products for the Zimbabwe Informed Push/Primary Health Care Packages (ZIP/PHCP) system. On ZIP deliveries, logistics data are collected from facilities using the Automated Delivery/Receipt Voucher (AutoDRV). After deliveries, data from AutoDRV are aggregated through the Top Up software. National level consumption and stock on hand data is available quickly for decision making purposes. From the September 2012 delivery round, 99 percent of facilities received a delivery and stockout rates for ACTs averaged 6.5 percent. The project continues to support the Ministry of Health and Child Welfare (MOHCW) in conducting ZIP/PHCP trainings nationwide.

Strengthen the Accountability of In-Country Supply Chains that Manage Malaria Products

Core-Funded Work:

- Guidance document: *Strengthening the Accountability of In-Country Malaria Supply Chains*
 - Organized to reflect the path that imported malaria commodities travel in a typical country, this brief examines potential areas of risk within the supply chain, offers methods for detecting leakage, and outlines steps to prevent or deter leakage from occurring by strengthening systematic weaknesses. Potential risk points include (1) arrival at customs, (2) warehousing and storage, (3) transport to stores at each level in the system, and (4) travel to SDPs where the supply chain’s custody of the commodity ends (see figure 1). For each risk point, this brief also describes key documents that must be maintained to reconcile records, increase visibility of inventory, and improve monitoring and evaluation. It does not explain how to calculate the quantities and value of stolen products, a topic that is important but beyond the scope of this discussion. Although the information offered here focuses on a standard public sector pharmaceutical supply chain, it also applies to private or vertical supply systems, such as LLIN distribution systems. The full report can be found on the deliver website:
http://deliver.jsi.com/dlvr_content/resources/allpubs/logisticsbriefs/StreAccoMala.pdf

Country Highlights

Angola

Having previously had success in orchestrating the delivery of multiple commodities via a single charter flight into Luanda, the project in December 2011 and again in June secured government permissions and exemptions that allow PMI cargo to be immediately cleared at the airport and loaded onto contracted vehicles. The consolidated shipping of freight has eliminated the need for

any warehousing at the central level and has facilitated the immediate dispatch of commodities to the provinces where, in some cases, delivery is made on the same days as the air charter's arrival.

Ghana

The project, working through a technical working group (TWG) of the MOH is assisting the MOH to develop a 5-year supply chain master plan for the country. The plan seeks to ensure the security of health commodities across all levels of the health system. Strategic interventions, an implementation plan, and associated cost have all been developed.

Rwanda

The project conducted a supply chain costing exercise in Rwanda in May 2012. The purposes of this activity were to determine the total national supply chain costs associated with donated commodities, determine costs by tier (central, district, facility, community) and by main supply chain function (procurement, transportation, storage, management), determine the unit costs of supply chain operations, and generate information to examine the financial viability of the Medical Procurement and Distribution Division (MPDD) currently.

Zambia

In quarter 2, the project worked with Deloitte to support the Supply Chain and Logistics Internal Control Evaluation (SLICE) report. The evaluation included some of the products that the project uses as tracer products and showed that some products to the value of \$500,000 were unaccounted for. The project also participated in the inventory count at Medical Stores Limited (MSL) at the request of USAID.

Bridge the Gap between NMCPs and Supply Chain Operators to Improve Core Supply Chain Functions

Core-Funded Work:

- Guidance document: *Bridging Malaria Programs and Supply Chains*
 - This core-funded deliverable explores the relationship between NMCPs and Central Medical Stores (CMS), using country examples, and offers suggestions on how gaps between programs and CMS can be bridged, specifically with regards to collaboration required to help ensure product availability.

Country Highlights

A number of country offices used quantification exercises and reviews as opportunities to bring NMCPs and CMS closer together. For example, in Malawi the project supports annual quantification exercises with the Health and Technical Support Services (HTSS) Department of the MOH.

In all field offices, project staff participate in supporting logistics-coordinating committees and structures. For example, in Mozambique the Malaria Working Group includes members from both the NMCP and CMS, allowing for a continuous flow of supply chain-related information between these two groups, facilitated by the project.

Tanzania

The project collaborated with Ministry of Health and Social Welfare (MOHSW) to conduct a logistics management unit (LMU) system design workshop. The LMU's functions, structure, resources required, and roles and responsibilities were defined, and national level stakeholder buy-in has been received. The LMU will be the structure responsible for coordinating logistics-management activities of different commodity categories under one unit and would also focus on bringing the NMCP, Pharmaceutical Supply Services, and Medical Stores Department together to better manage these public health commodities.

Once Systems Meet Performance Levels, Build Local Capacity to Sustain System Performance

Country Highlights

Burkina Faso

The project trained the TWG on the quantification methodology of long-lasting insecticide-treated nets for mass distribution (methodology recommended by Roll Back Malaria [RBM]).

Liberia

The project has supported capacity building of MOH county health office data entry clerks in the use of Supply Chain Manager (SCMgr) and the Supply Chain Management Unit (SCMU) in generating performance feedback reports

Malawi

The project conducted training of various cadres, including district pharmacists, health workers, and health surveillance assistants (HSA) in supply chain management. The project supports both in-service training and pre-service training

Mozambique

The project received permission from both the Ministry of Health (MISAU) and the Central Medical Store, Central de Medicamentos e Artigos Médicos (CMAM) to implement a competency-based national training program for staff from provincial and district warehouses, hospitals, and health units, as well as for community health workers (APEs).

Zambia

The project continued to provide mentorship to the LMU to ensure that continued quality standards are met, building in-country capacity with an aim for sustainable management that is ultimately not project-dependent.

Objective 3: Improve the Global Supply of Malaria Commodities

Support to the RBM Procurement and Supply Management Working Group

TO Malaria is an active member of the Procurement and Supply Chain Management Working Group (PSM WG). TO7 provided management support to one of the key activities within the workstream—a mapping of Global Fund (GF) PSM-related grant delays. TO7 also participated in

the planning and design of a joint RBM and GF Workshop on Resolving PSM Bottlenecks held in Tunis, Tunisia in September 2012.

Support to the Interagency ACT Supply Task Force

In September 2011, World Health Organization (WHO)/GMP established an interagency task force whose mandate is to collect and analyze a holistic set of data to identify countries at risk of ACT shortfalls and to provide recommendations to mitigate the risk. TO Malaria is providing data management and analysis support to the task force.

Manual for Quantifying of ACTs and RDTs

The project participated in the development of a manual for quantifying ACTs and RDTs. The effort was led by MSH. During this period, TO Malaria conducted a field test of the manual in Zimbabwe and provided detailed feedback to MSH that they incorporated into the final version. The tool is now available electronically.

LLIN Recycling Pilot Project: Report on Phase III

The final phase (phase III) of the Madagascar LLIN Recycling Pilot Project ended during FY2011; the project prepared a report detailing the outcomes of the study, which was finalized in March 2012. Trex, the plastics recycling company with whom the project developed a public-private partnership to implement the final phase of the pilot, conducted tests on the old LLINs and was ultimately able to recycle the polyethylene (PE) LLINs into a biocomposite plastic-wood board.

Implementation Challenges and Solutions

Increased Pharmaceutical Procurement Lead Times

Increased global demand for ACTs has placed pressure on qualified manufacturers, and it appears to have increased their lead times. In the short- to medium-term, the project is working proactively to plan requirements, reserve production slots for country needs, and manage the emergency stockpile. From a more long-term perspective, the project's participation in the WHO ACT Task Force and the recent 3-year ACT gap analysis have enabled TO Malaria to use better information to plan strategically for the future.

Additional Challenges for Essential Medicines Procurement

Regulatory policy is ever evolving in many of the countries where we work, which makes it difficult for the project, suppliers, and the original manufacturers to routinely track and update registration information. Registration lead times can be very long (more than 2 years in some countries). Furthermore, the waiver process for essential medicines is often not clear, or conflicting information is made available. The project continues to work closely with field offices in-country and with drug regulatory boards and agencies in an effort to maintain accurate and up-to-date registration information.

Managing Increased Orders

During FY12, the project procured 79,001,240 ACT treatments—compared with 46,219,465 treatments last year—demonstrating the magnitude of scale-up needed to meet procurement demands. Additionally, last year included significant turnover in the procurement team structure and

leadership. In response to the growth, the project changed the organization and staffing of the procurement team, which has greatly improved the team's efficiency and responsiveness.

Data Quality and Availability

Real data on consumption, stock on hand, and shipment information are necessary to effectively plan for countries' commodity needs. The project relies on central- and facility-level data from various sources, such as the PPMRm, EUV, and LMIS. Unfortunately, for a variety of reasons, the quantity, quality, and regularity of the data provided is sometimes questionable, which diminishes overall confidence in the system. Where LMIS systems are already in place, the project is focused on strengthening these existing systems to ensure that the data moving up and down the supply chain is reliable. In other countries, the project continues to work hand-in-hand with government counterparts to put practical and reliable information systems into place. There are still significant sensitivities around the sharing of MOH-owned data in multiple countries.

Improving Arrival of Processing Goods In-Country

Clearing project-procured commodities through customs remains a challenge in certain countries, such as Nigeria and DRC. However, some countries have experienced improvements. In Mozambique, where clearance has previously taken approximately 3 months, the project is now experiencing a lead time of closer to 6 weeks—a vast improvement with significant impact.

Objective I: Improve, Implement, and Expand USAID's Provision of Malaria and Related Commodities to Programs Worldwide

Timely, Transparent, Cost-Effective Procurement of Quality Malaria Products

Procurement

The principal activity of Task Order 3 (TO3) and Task Order 7 (TO7) is to support the President's Malaria Initiative (PMI) by procuring malaria commodities in response to requests placed by the U.S. Agency for International Development (USAID) missions; the requests are based on the needs outlined in the yearly Malaria Operational Plans (MOPs). During fiscal year 2012 (FY12), we processed requests for procurement assistance from 25 countries: Angola, Benin, Burkina Faso, Burundi, Cambodia, the Democratic Republic of the Congo (DRC), Ethiopia, Ghana, Guinea, Kenya, Laos, Liberia, Madagascar, Malawi, Mali, Mozambique, Myanmar, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.

Review and Refine Procurement Systems and Procedures

To officially place an order, we must receive a commodity procurement information request (CPIR) form, which is included in the procurement guide and can also be accessed on the website. The CPIR contains the relevant information needed to initiate an order, including product specifications, requested delivery dates, consignee information, etc.

There are now six CPIR forms in use, each designed to cover a specific commodity or commodity group, and these also accommodate new or revised product presentations, i.e., the Coartem Dispersible. The forms remain *live* documents that can be—and are being—completed to reflect the bespoke nature of our procurement business model with PMI.

Operational Scale

During FY12, we received 223 procurement requests from 25 countries. A total of 272 orders were placed with vendors for a total value of U.S.\$150.9 million (commodity cost only). As a point of comparison, in FY11, 123 procurement requests were received from 24 countries. The number of orders placed increased by 68 percent compared to the number placed in FY11. A total of 162

orders were placed with vendors in FY11 for a total value of US\$132.2 million (commodity cost only). The value of the products procured during this period is 14 percent higher than in FY11.

Major procurement items included:

- 17.9 million long-lasting insecticide-treated bed nets (LLINs)
- 79 million artemisinin-based combination therapy (ACT) treatments—42.9 million treatments of artemether lumefantrine (AL), 16.8 million treatments of generic AL, and 19.2 million treatments of fixed dose combination artesunate/amodiaquine (FDC AS/AQ)
- 30.9 million rapid diagnostic tests (RDTs)
- 14.7 million sulphadoxine-pyrimethamine (SP) tablets for intermittent preventative treatment in pregnancy (IPTp)
- 815,400 quinine-based treatments (tx) of tablets and injections for the treatment of severe malaria
- 650 microscopes and kits for malaria

For a complete list of commodities procured, see appendix A.

The growth in overall procurement from project inception is illustrated in figure 1. Figure 2 provides the value of commodities procured by product. FY12 marked the first year where the value of TO Malaria ACT procurement exceeded its LLIN procurement value. The quantity of ACTs procured this year was over 70 percent greater than the quantity procured in FY11 (46,219,465).

Figure I. Total Commodities Procured, 2007–2012

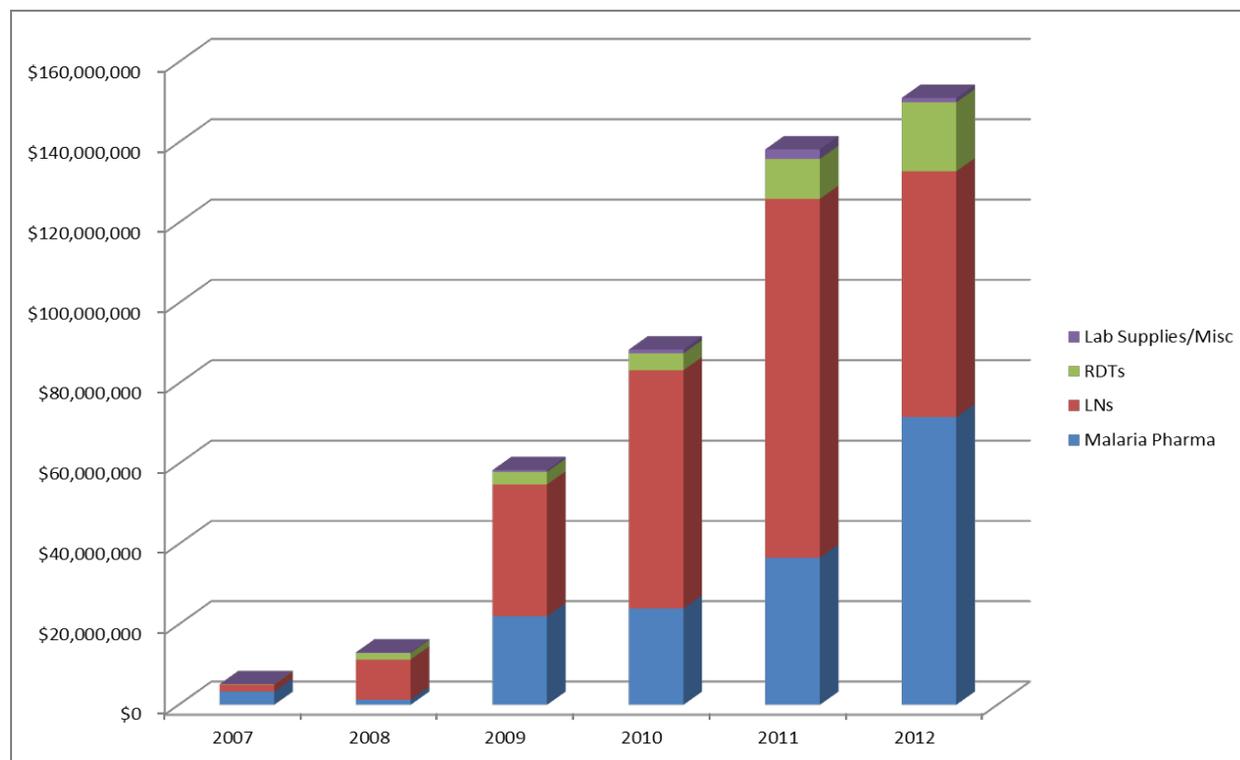
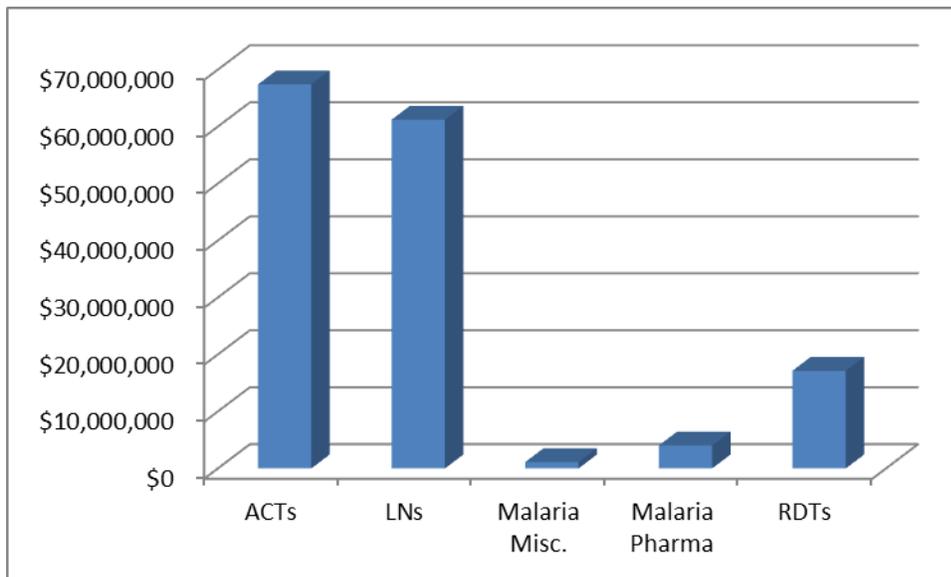


Figure 2. Total Value of Commodities Procured, by Type, FY12



During this period, we also continued procuring commodities for Zambia using funding from the U.K. Department for International Development (DFID) and the Embassy of the Kingdom of Netherlands (EKN). With DFID funding in FY12, we procured: 4,686,750 ACTs and a variety of essential medicines for a total value of U.S.\$5.96 million (commodity cost only). These figures are included in the total procurement figures above. A complete report of DFID-funded procurement is included in appendix B. With EKN funding, we procured 2,480,000 tablets of SP and 340,750 RDTs for Tanzania.

Sources and Suppliers of Commodities

The selection of a vendor/manufacturer is based on one or more of the following criteria, in response to the Request for Quote (RFQ):

- overall responsiveness
- conformance to product specifications
- conformance to quality certifications and standards
- conformance to packing and marking requirements
- product price
- timeliness of deliveries
- quality of product
- product registration in-country (if applicable)

Only vendors and manufacturers that pass internal requirements (good manufacturing practices [GMPs], product stability data, previous supply record, etc.) and/or are included on the PMI preselected list are invited to bid or quote. The current list of selected manufacturers for rapid diagnostic tests and LLINs can be found in appendix D and E.

Challenges and Innovations

The demand for ACTs, including Coartem (AL), and Winthrop FDC AS/AQ, continues to grow. PMI has been asked to fund an increasing number of *emergency* requirements where deliveries funded by other donors have been delayed for a variety of reasons. These factors have led to longer lead times.

TO Malaria now manages its own inventory of Coartem and Winthrop FDC AS/AQ at the United Parcel Service (UPS) Roermond warehouse in the Netherlands to respond quickly to countries' emergency orders, obtain better pricing, and mitigate supplier production risk. Over the reporting period, the project used the stock to respond to emergency orders from Burkina Faso, Ghana, Guinea, Liberia, Madagascar, Mozambique, Uganda, Tanzania, and Zambia (two separate orders). We will continue to monitor the supply and demand situation in conjunction with other partners and donors.

In response to this challenging market dynamic, we continued to build upon our tactical approach of requesting countries to provide future ACT needs for 6 to 12 months in advance. This has enabled the project to further refine our demand-planning tools and to provide manufacturers with as much advance notice as possible of future ACT needs. We are also working in close collaboration with other donors and procurement service agencies to coordinate the timing of orders and delivery needs. In this way, we endeavor to avoid overloading production at any given time. It also has the benefit of phasing delivery arrivals in-country, thus further easing the burden on host-country supply and distribution facilities. (For a list of World Health Organization [WHO] prequalified vendors, see appendix F.)

The rapid growth in procurement, especially the number of orders processed, strained the capacity of the team and resulted in slower response times and increased staff turnover. In response, the project brought in a new Director for Procurement Operations, who managed a change process that resulted in restructuring and leadership changes. TO Malaria now has dedicated malaria procurement specialists led by a Procurement Deputy Director, who report directly to the Task Order Director. Additional procurement specialists were hired, and an induction training for new staff was formalized. This has significantly improved the processing of orders and resolution of challenges in a timely manner.

Procurement Scorecard and Performance Monitoring Plan (PMP) Indicators

During the reporting period, the project has continued to monitor system performance monthly using the scorecard to show results. Due to the significant staff turnover described above, and the resulting lapses in following Enterprise Resource Planning (ERP) system procedures, data quality may have been impacted during this reporting period. The data reported below were drawn from the ERP and so may reflect inconsistencies in how staff entered key dates that form the basis of the indicator calculation.

The targets this year are reflected as follows: 85 percent or higher (green), from 84 to 65 percent (yellow), and from 64 percent or lower (red). During this reporting period, the orders shipped on-time rate was 52 percent. The received in-country by desired receipt date was below the target performance level (64 percent).

The overall indicator results were below the target levels for three indicators. As shown in figure 3, a number of external factors affected the project's ability to meet target levels. The project will continue to review its internal procedures for data entry, which are used to calculate these results. The staff training and the strengthened monitoring systems recently implemented have helped to

address the data quality issues and will be reflected in the next reporting period. Once the data quality issues are resolved, the project will work closely with vendors and freight forwarders to address any weak performance identified through the performance monitoring.

The project will compile and report on monthly scorecard results and provide summaries in the semi-annual and annual reports. The PMP for the procurement process is shown in table 1 below.

Figure 3. Reasons Why Shipments were Delayed

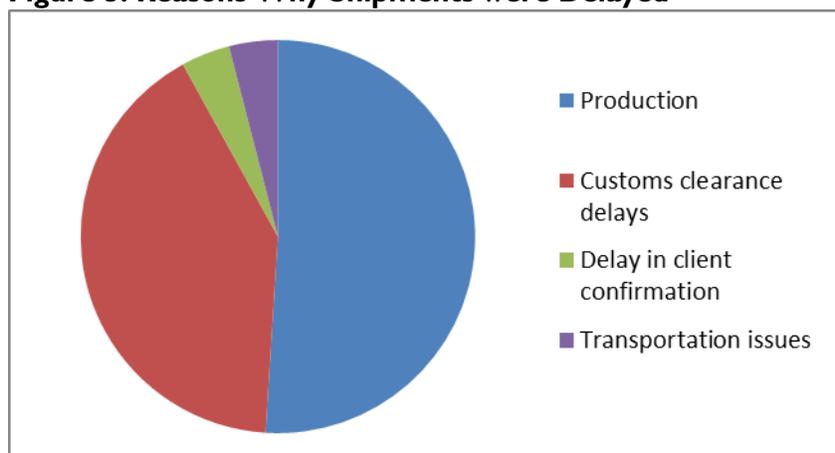


Table 1. PMP for the Procurement Process, October 1, 2011–September 31, 2012

Operational Area	Indicator	Status
Monthly system scorecard implemented	Monthly scorecard available	Available monthly
Orders shipped and received on time (data from October 2011 to September 2012)	% of orders available for shipping within 10 working days of contracted date with vendors	52%
	% of orders received by countries within a month of agreed date with the Mission	64%
Suppliers deliver ordered commodities to satisfy contractual requirements	Supplier fill rate (contracted quantity on time)	82%
Respond to emergency orders	Percentage of emergency orders responded to during the previous 12 months	19/19 = 100%

Efficient and Secure Delivery of Procured Commodities

Freight Forwarding

From October 2011 to September 2012, the task order successfully forwarded commodities to support malaria programs in 25 countries. Countries shipped to include Angola, Benin, Burkina Faso, Burundi, Cambodia, DRC, Ethiopia, Ghana, Guinea, Kenya, Laos, Liberia, Madagascar,

Malawi, Mali, Mozambique, Myanmar, Nigeria, Rwanda, Senegal, South Sudan, Tanzania, Uganda, Zambia, and Zimbabwe. The freight team coordinated the in-country distribution of LLINs to several districts in Benin, Nigeria and, for ACTs and RDTs, Angola and DRC.

Shipment execution tasks include freight quote preparation, vendor door pickup, freight booking, shipment tracking, customs clearance, and final recipient delivery. The team will continue to update the country-specific shipping instructions in ORION, which is part of the project’s management information system (MIS). The project started to use the Electronic Data Interface (EDI) with the contracted freight forwarders (Logenix, MEBS, and UPS Supply Chain Solutions [UPS SCS]) to update shipment milestones in ORION. Shipment milestones provide shipment visibility to users of the MIS website.

Per the new freight strategy for TO7, shipments are being competed and bids provided by the contracted freight forwarders for all shipments except those in which the vendor is expected to provide freight services, for shipments from a vendor to a UPS SCS warehouse (these shipments will be handled exclusively by UPS SCS), for shipments where USAID Washington concurs with the project’s recommendation and justification for exclusive use of a freight forwarder to a specific country, and for *emergency* shipments.

Table 2 below shows results from the freight analysis conducted. Figures are calculated based on the difference between the highest bid received and the lowest bid received. Through continued bidding of shipments, we have been able to obtain a cost savings of \$1,079,017.27 for FY2012. This savings was obtained by reviewing all bid shipments during the year and taking the difference between the highest and lowest bids during that time.

Table 2. Savings from Bidding Out Shipments to Vendors

	Total Savings	% Savings Over All
CY2011 (October–December)	\$245,376.75	24%
CY2012 (January–March)	\$394,763.78	26%
CY2012 (April–June)	\$213,884.00	23%
CY2012 (July–September)	\$224,992.74	12%

The relatively large shipment sizes and limited airline capacity continued to present challenges. The freight team responded effectively and will continue to research strategies to ensure timely and complete deliveries. For instance, in July and August, the freight team, UPS SCS, and IPCA Laboratories worked together to coordinate a charter flight for a large shipment of generic AL. This ensured that the shipment arrived on time and delivered to the recipient in a timely manner.

Quality Assurance

LLINs

From October 2011 to September 2012, the quality assurance (QA) team managed pre-shipment inspection and testing for 33 orders from Vestergaard Frandsen, Sumitomo, Bestnet, and BASF. Crown Agents performed sampling and inspection of all consignments at the manufacturing sites. FHI 360 reviewed the inspection reports and released the orders for shipment concurrently with laboratory testing. All test results were compliant with USAID and WHO specifications.

Complete test results were available within 12 to 94 days after sampling (median 36 days). Most of the longer times were during the summer months, when a very high number of orders were made available in a short time frame. This led to some testing and especially (final) review delays. After final review of all results, FHI 360 created Certificates of Conformance for each consignment.

The QA team reviewed a document package from two Olyset manufacturers, A to Z Textile Mill and Net Health, to verify eligibility of these suppliers for procurement by the TO Malaria. In addition, FHI 360 performed laboratory testing of a set of samples from both manufacturers. The results from the document review and the laboratory testing were satisfactory and both manufacturers were added to the list of pre-qualified suppliers.

The mission in Rwanda reported a complaint about the size of conical nets that were delivered. The QA team supported USAID and the John Snow, Inc. (JSI) procurement team with information about the right method to measure net dimensions. FHI 360 made extra measurements of the samples that were received to confirm that the size of the nets conformed to specifications.

No other product complaints were reported.

RDTs

During the reporting period, the QA team managed pre-shipment inspection and testing for 45 orders of RDTs from Standard Diagnostics, Orchid, ICT Diagnostics, AccessBio, and Premier Medical. FHI 360 reviewed all test results before clearing an order for shipment.

TO7 contracted with the Foundation for Innovative New Diagnostics (FINN) to support all lot testing of RDTs through the WHO laboratories. Lot testing for PMI included initial testing of 218 batches and 18-month stability of 146 batches and was conducted by the Malaria RDT Quality Assurance Laboratory at the Research Institute for Tropical Medicine (Philippines) and the Laboratory of Molecular Epidemiology at the Institut Pasteur du Cambodge (Cambodia). Appendix C provides FINN's quarterly reports for the reporting period.

Results of initial pre-shipment testing were available after 2–34 days after sampling (median 8 days), and all results were compliant with WHO standards. The longest delays were caused by sample shipment and customs delays.

Pharmaceuticals

Coartem

FHI 360 reviewed the manufacturer's Certificates of Analysis of all batches of Coartem that were procured by the project (401 batches over 53 orders). Under the PMI policy, Coartem does not require routine pre-shipment testing because the product is regulated by the U.S. Food and Drug Administration (FDA). FHI 360 continued to perform identity testing using near-infrared spectroscopy and limited chemical testing for the amount of active ingredients.

Generic AL

FHI 360 managed sampling, inspection, and testing of all generic AL from IPCA Laboratories. Crown Agents performed sampling and inspection, and Vimta Labs performed all testing. Because this product is WHO pre-qualified, FHI 360 released orders for shipment upon completion of sampling concurrently with laboratory testing. A total of 190 batches, divided over 11 orders, were tested. Test results were available 29 to 58 days after sampling (median 50 days), and all results were compliant with US Pharmacopeia (USP) specifications.

Fixed Dose AS/AQ

FHI 360 reviewed Certificates of Analysis of every batch of AS/AQ procured from Sanofi-Aventis before releasing the order for shipment. Until March, Bertin Pharma performed concurrent testing of every batch using the manufacturer's method. After that month, FHI 360 performed concurrent testing of every batch. All results were compliant with the specifications.

Potassium and Sodium Chlorides

There was one order for potassium and sodium chlorides. These products were manufactured by Aguettant in France. FHI 360 reviewed the manufacturer's Certificates of Analysis before releasing the products for shipment. While pre-shipment testing may not be required for FDA or stringent regulatory authority (SRA) products, the project does apply other quality assurance measures such as NIR to ensure quality.

Other Pharmaceuticals

Other pharmaceuticals procured by the project included SP, artesunate powder for injection, quinine sulfate, quinine resorcine, quinine hydrochloride, paracetamol tablets and injectables, dextrose, sterilized water, mebendazole, and iron folate. These products are not WHO-prequalified and were tested pre-shipment by independent laboratories, prior to shipping. FHI 360 reviewed all results before releasing the orders for shipment. All tested samples were compliant with the applicable specifications, and no product complaints were reported.

Table 3. PMP Indicators for the QA Process, October 1, 2011–September 30, 2012

Support Area	Operational Area	Indicator	Status
QA and quality control	QA and quality control procedures established and implemented	% of long-lasting insecticide-treated bed net (LN) shipments with pre-shipment test reports available	100%
		Median time and range (in days from sampling) required for pre-shipment LN test reports	36 days Range: 12–94 days
		% of RDT shipments with pre-shipment test reports available	100%
		Median time and range (in days from sampling) for up-to-date RDT test reports	8 days Range: 2–34 days
		% of generic AL shipments with pre-shipment certificates of conformance	100%
		Median time and range (in days from sampling) required for pre-shipment AL test reports	50 days Range: 29–58 days
		% of AS/AQ shipments with pre-shipment certificates of conformance	100%
		Median time and range (in days from sampling) required for pre-shipment AS/AQ test reports	29 days Range: 6–56 days
		% of other pharmaceuticals shipments with pre-shipment certificates of conformance	100%
		Median time and range (in days from sampling) required for pre-shipment test reports for other pharmaceuticals	41 days Range: 32–49 days

Supporting Commodity Procurement, Ordering, Reporting, Financial Accounts, Deliveries, and Management and Providing Commodity-Specific Information through the MIS System

The MIS team supported the ongoing operations of TO7 and the closeout of TO3. Day-to-day operations are supported by recording and providing for management review: a) commodity needs by country and recipient program, b) shipment requests by country and recipient program, c) financial accounts by country and funding source, and d) the status of shipments. The MIS is

available continuously to authorized users from JSI, the United States Government (USG), and partners—both centrally and in the field via a secure web-based user interface, the USAID | DELIVER PROJECT website.

The MIS is managed according to project management standards as identified by the Project Management Institute using a standard Software Development Life Cycle (SDLC). Periodic updates of the MIS are provided to ensure customer satisfaction based on requests from internal and USG sources. These periodic updates are directed and prioritized by the Change Control Board (CCB). The CCB process provides for input from USAID and other stakeholders and assesses the impacts of individual issues and prioritizes resource allocation.

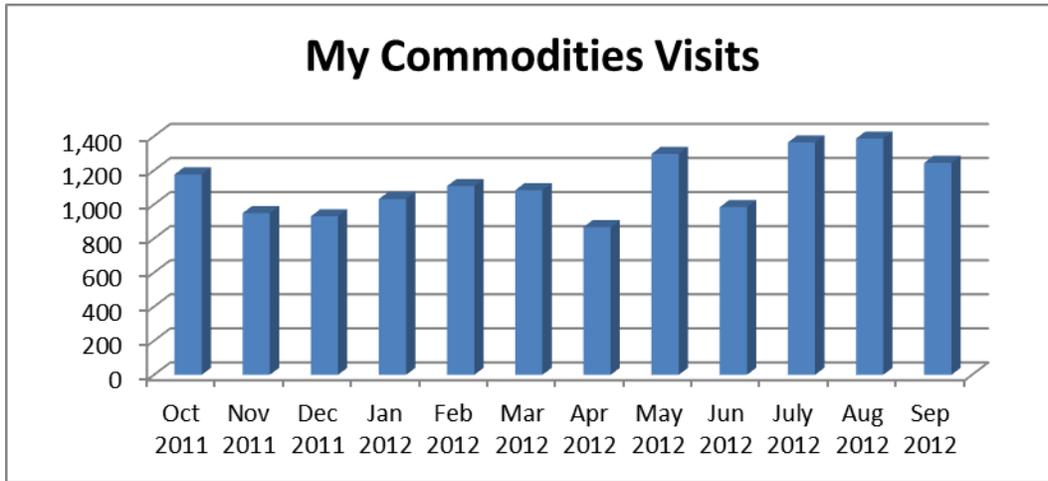
MIS reliability, availability, and ease of secure access is measured against a service level agreement (SLA), and we met or exceeded all standards in the reporting year. Figures 4, 5, and 6 show key MIS measurements from the past year.

Figure 4. Log-ons to Project Website



The USAID | DELIVER PROJECT WEBSITE is accessed by an average of 523 unique logon sessions per month. Each successful log-on and data access by an authorized user increments the count.

Figure 5. Website Visits to “My Commodities”



The “My Commodities Visits” shows the number of times per month that authorized users have accessed the USAID | DELIVER PROJECT WEBSITE “My Commodities” web page to ascertain shipment or financial information. The average monthly visits are about 1,119, but the trend over the year is generally an increase in use. The shipment data is updated three times during each business day to provide the most current status.

Figure 6. Availability of Website



This chart is a measurement of the amount of time per month that the USAID | DELIVER PROJECT WEBSITE is available for access, excluding scheduled maintenance on the weekends. The standard is 99.5% availability and was exceeded each month during the reporting period with the exception of February, which dipped due to problems associated with a major infrastructure software rollout.

Maintenance Work Completed

The MIS team modified the ORION ERP system and the USAID | DELIVER PROJECT website to enrich management data availability and operational productivity. This is an ongoing effort and is completed along with day-to-day maintenance support of operations, including ad hoc queries, user assistance, anomaly research and resolution, and pre-project definition and estimation. The following are the highlights of the past year’s enhancements.

EDI Implemented with MEBS

Implemented EDI data transfer with the small business freight-forwarder MEBS. This provides for rapid transfer of shipment information and status, including shipment *leg* information. Although not funded by TO Malaria, the EDI benefits the project as MEBS is one of the project's freight forwarders.

Automated Sales Returns

Replaced a manual process for sales returns with a system-based automated return process for inventory and finance.

Upgraded ORION ERP, Oracle Database, and Website Framework

This base software upgrade moved to current software versions, providing additional features and improved support from the software companies (ORACLE, 3i Infotech) into the future.

Additionally, numerous My Commodities reports were updated based on user requests to better provide management information in the various formats required.

Performance Management

The MIS is a key support element for TO Malaria providing management information and detailed reports to aid in procurement, supply chain management, and all other aspects of ensuring that the correct commodity is in the correct place, at the correct time, at the lowest possible price. Table 4 shows the PMP indicators for the MIS.

Table 4. PMP Indicators for the MIS, October 1, 2010–September 31, 2011

Support Area	Operational Area	Indicator	Status
MIS	Availability of USAID DELIVER PROJECT WEBSITE	Percentage of time the USAID DELIVER PROJECT WEBSITE is available	99.6 %
	Total number of visits	Total number of visits to the USAID DELIVER PROJECT WEBSITE	13,422
	Number of log-ins	Total number of logins to the USAID DELIVER WEBSITE	6,277

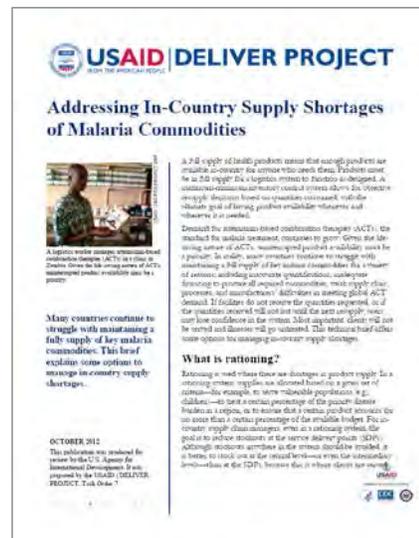
Objective 2: Strengthen In-Country Supply Systems and Capacity for Effective Management of Malaria Commodities

Strengthening in-country supply systems and building greater capacity for improved management of malaria commodities at the local level are critical to the success of TO Malaria and to reaching the goals of PMI. These actions ensure that commodities procured and delivered under Objective 1 activities, and through other key malaria partners, reach those in need. This section focuses on the critical areas of supply chain assistance: improving system performance, improving visibility of stock data at all levels, strengthening accountability for the products managed, bridging the gap between programs and key supply chain entities (National Malaria Control Programs [NMCPs] and Central Medical Stores [CMS]), and building capacity to sustain performance. It also highlights core products and country achievements organized by these key areas.

Improve System Performance, Thereby Ensuring That Malaria Products are Available When and Where They are Needed

Guidance Document on Options for Addressing Short-Term Supply Shortages

The project developed a technical guidance document outlining strategies to help in-country supply chain managers deal with non-full supply situations. Approaches offered include implementing shorter pipelines (i.e., eliminating a stock-holding level); filling full orders for facilities that are geographically further away from resupply points while filling partial orders for facilities that can more easily access supplies when they become available; using different buffer stock levels at different times of the year that correspond with the seasonality of malaria in-country; and using epidemiological data for prioritizing resupply.



Inventory of Supply Chain Augmentation Options



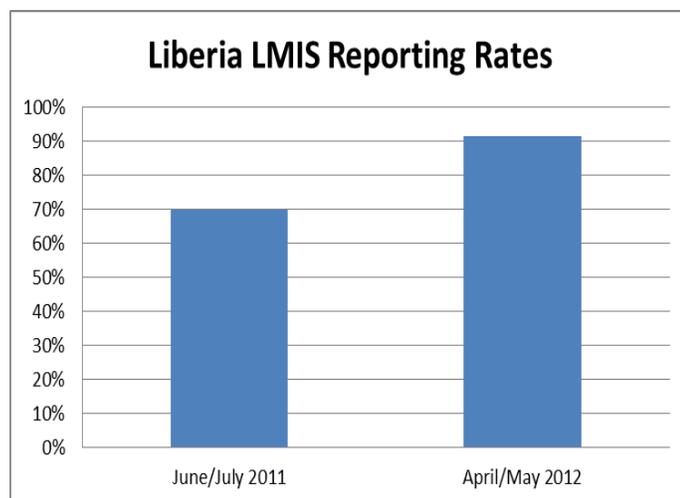
The project continues to strengthen the systems for malaria products according to the unique needs of each country and to help ensure that quality commodities reach the end user when and where they are needed. Where required, this is done using both long- and short-term supply chain augmentation measures that range from the strengthening of existing systems to the implementation of entirely parallel systems. The project developed an inventory of supply chain augmentation options, providing examples and definitions of several models where existing public health sector supply chains for malaria commodities are augmented. These flexible and creative solution examples, driven mainly by Mission and host country needs, include use of third-party logistic providers, as well as other innovative models in use in resource-limited settings.

Country Highlights

Liberia

Throughout the year, the project supported the Montserrado County Health Team (CHT) in the use of the logistics management information system (LMIS), including roll-out of training, supervision visits, generating feedback reports, and data review and analysis. The project assisted the CHT in conducting a feedback meeting to discuss the performance of the integrated logistics system with the health facilities. It was found that there had been significant improvements in reporting rates, and by mid FY12 rates increased from 70 percent in June/July 2011 to 91.4 percent in April/May 2012, as shown in figure 7.

Figure 7. Liberia LMIS Reporting Rates



After assessing the current distribution system's strengths and weaknesses, they designed an emergency truck delivery system to help reduce the stockout rate of malaria drugs at service delivery points. After the exercise, the county pharmacists who participated in the system design committed to implementing the system immediately.

Madagascar

The project supported the monitoring and evaluation component of the National Coordination Committee (Comité de Coordination Nationale, CNC) in the design for data collection during the different phases of the 2012 LLIN distribution campaign. Throughout the campaign planning, the project provided technical assistance (TA) on the various logistics efforts required for success. The innovation for the LLINs nationwide distribution campaign in November 2012 is to use short message service (SMS) for accurate data sending during the five phases of the campaign distribution

process. In April 2012 the project worked with CNC (mainly with PSI) to focus the primary design of the SMS-based data collection and the host website functionality.

Malawi

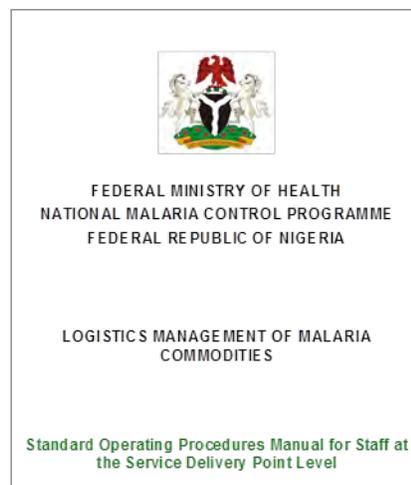
The project has been tasked with the design, implementation, and management of a parallel supply chain, which ensures that all available ACTs, RDTs, family planning commodities, and essential medicines get delivered to all health facilities every month, in addition to ensuring a high degree of visibility and accountability within the distribution system. Currently, the parallel supply chain (PSC) is managing the storage and distribution of antimalarial commodities (financed through the USG and The Global Fund to Fight HIV and AIDS, Tuberculosis and Malaria [GFATM]) and family planning commodities (financed by USG). In FY12, the following commodities were distributed through the PSC: 4,179,352 ACTs; 3,788,113 RDTs; and 800,000 tablets of SP.

With the introduction of the kits, as well as the general growth in volumes for the malaria commodities in late 2011, the PSC has grown considerably and well beyond the scale imagined at its inception. This has led to a reassessment of warehousing needs, both in terms of size and management capability. During the first half of 2012, warehousing responsibilities were transferred from the original contractor, Cargo Management Logistics (CML) to RTT, a subcontractor of the project. Distribution services continue to be contracted out to CML. An indication of the change in scale of the PSC is that the vehicle fleet for this part of PSC operations more than doubled in size, from fewer than 10 trucks to more than 20, between November 2011 and April 2012.

The LMIS reporting rate has recovered in recent months to be close to its long-term average of 60 percent to 65 percent. While this is a noteworthy improvement from earlier in the year when it declined to below 50 percent, the reporting rate from facilities is lower than the district figures and data quality remains a major concern. Supervision activities show that only 40 percent of stock cards reflect physical stocks held.

Nigeria

The malaria commodities logistics system (MCLS) was designed in 2010, and since then the project has been leading the efforts to expand it nationally. The MCLS trainings focus on commodity logistics management skills in receiving and reporting on malarial commodities from the service delivery point level. This year, project staff have supported the training of health facility personnel in Cross River, Anambra, Benue, Zamfara, Ebonyi, Bauchi, Oyo, Gombe, and Nasarawa states. The project has also developed an MCLS data aggregation tool and has been supporting training of the states' CMS and Roll Back Malaria (RBM) officers who are responsible for aggregating the local government area (LGA) MCLS essential data at the state level. The states' aggregate data is forwarded to the NMCP, where vital procurement and supply management decisions are made for the country using these data.



The project continued to support Nigeria's ambitious LLIN campaign through the logistics workstream of the state support teams. The project supported states to assess storage and transport options, conduct microplanning, track distribution, and supervise the campaign. Through April 2012, the project supported the distribution of 46.9 million LLINs to the community level in 31

states. This is the equivalent of 2000 40-foot containers, which if lined up from end to end would run continuously for over 15 miles.

Mali

As a result of the military coup in Mali in March, the USG decided to suspend its assistance to the government of Mali; therefore, TO7 activities there were subject to a stop work order. In late July the operational suspension imposed on the project was lifted. Since that time TO7 has returned to contracting with the Pharmacie Populaire du Mali (PPM) for the warehousing and distribution of selected PMI commodities to 59 district-level referral health centers and has continued to work with PSI to manage the distribution of 600,000 LLINs for free distribution to four districts within Mopti region to ensure universal coverage. Procurements that had previously been on hold are now moving forward.

Mozambique

Project staff assisted the Central Medical Store - Central de Medicamentos e Artigos Médicos (CMAM) in preparing the ACT distribution plan, taking into account the lack of AL-Kits and maximizing the use of the scarce amount of ACTs available by distributing through via Classica. Despite some challenges, the kitting process (with the inclusion of RDTs in the kits) and delivery to the provinces has now resumed. The Ministry of Health (MISAU) will continue to distribute the ACTs by via Classica for the time being because of the low stock situation in the country. It is expected that kit distribution will recommence in October.

Regional Development Mission for Asia (RDMA)

During the past year, the project launched activities in the Greater Mekong Sub-Region of Asia with the provision of commodities and technical assistance to Laos, Cambodia, Burma, Thailand, and Vietnam.

The TO established a regional presence with the contracting of technical personnel based in Bangkok. Additionally, two separate STTAs, one by a TO Senior Technical Advisor and another from a Senior Technical Advisor of the project, were made to reinforce relationships with counterparts and support the collection of regional information on stock status, forecast, and supply of malaria commodities. During this first year, the first procurements by the project to Cambodia and Laos were successfully completed, and procurements for Burma were well under way.

Tanzania

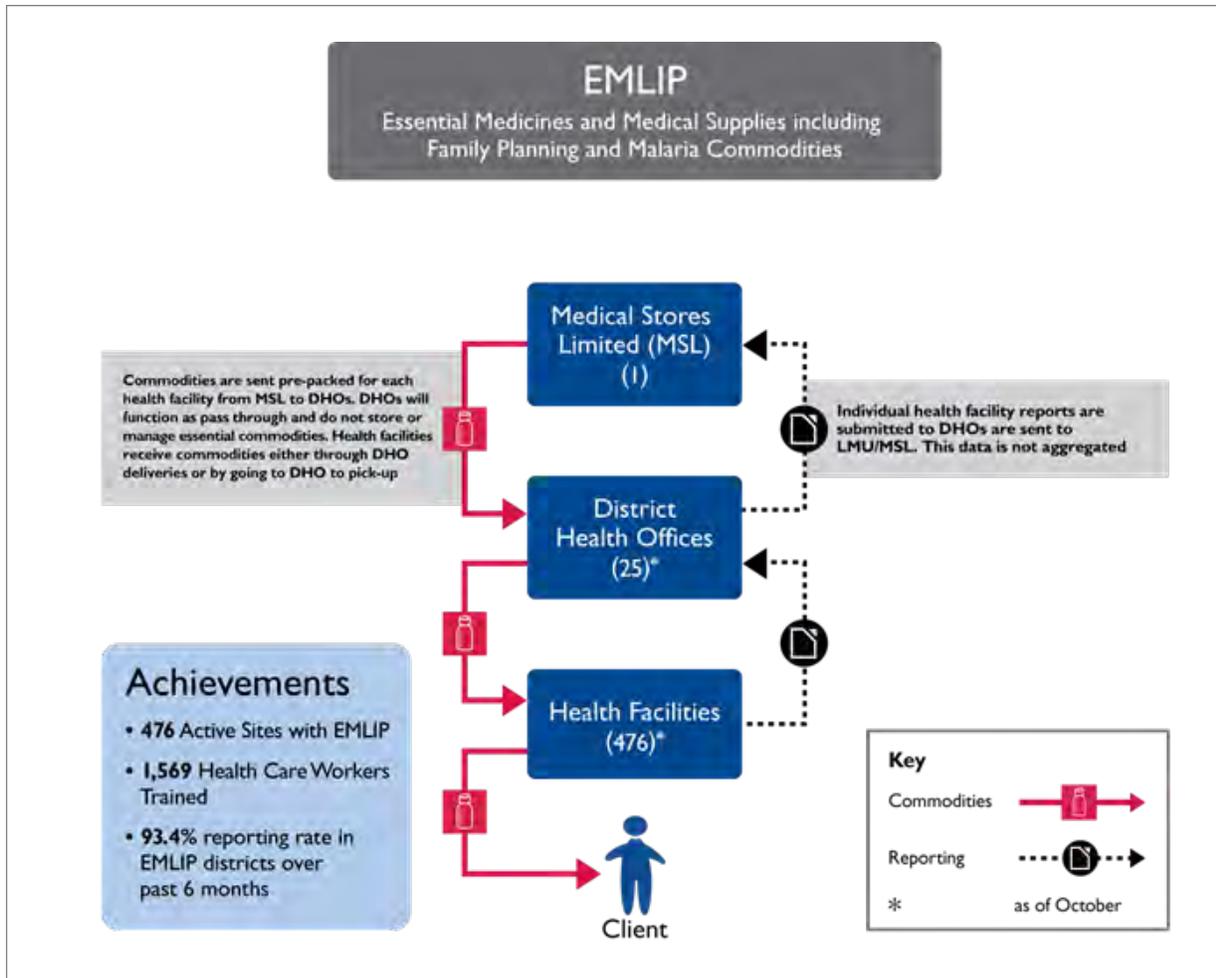
In 2011, the project redesigned the integrated logistics system (ILS) and is currently in the process of rolling out that revised version. Important components to the redesign were:

- Reassignment of A, B, and C facilities. All public health centers and dispensaries are split into three groups (A, B, and C) for ordering products to avoid overwhelming the infrastructure at the districts and medical stores department (MSD) zones. Each delivery group submits its orders to its respective district once per quarter, with different delivery groups submitting to the district each month. Facilities were reassigned A, B, or C groups for more efficient distribution of commodities
- Task-shifting: calculation of resupply moved to the district level.
- Collecting days out of stock.

Zambia

To ensure availability of antimalarial drugs and other related health commodities at the service delivery points (SDP) by clients whenever needed, the project has been providing technical assistance in systems, strengthening them by implementing the Ministry of Health (MOH)–approved national Essential Medicines Logistics Improvement Program (EMLIP). As of the end of FY2012, EMLIP was rolled out in 26 of the 89 districts countrywide, reaching 476 health facilities. Figure 8 shows the flow of information and commodities in the EMLIP system.

Figure 8. EMLIP Flow of Information and Commodities



EMLIP by design is a data driven demand system, which in addition to availability also ensures central level visibility of stock situation at SDPs. Individual facility reports on key essential logistics data are submitted to the Logistics Management Unit (LMU) housed at Medical Stores Limited (MSL) via their respective District Health Offices (DHOs) as a mandatory requirement for them to receive commodities. Onward submission of these reports from DHOs to LMU follows a predetermined fixed schedule. The LMU has recorded 93.4 percent reporting rate for EMLIP districts over the last 6 months of FY2012.

Zimbabwe

In August, the project, in collaboration with Ministry of Health and Child Welfare (MOHCW) NMCP and PSI, conducted field monitoring of the direct distribution, receipt, and storage of 457,000 LLINs in seven malaria-endemic districts. All LLINs were received, documented, and properly stored at holding points in the seven districts.

Strengthening the Management of LLINs in Ghana

In Ghana, the project is involved in strengthening the management of LLINs across a range of areas, including:

- **Campaigns:** In line with the current policy of the NMCP to achieve universal coverage of LLINs, the project provided technical and logistics management support for the distribution and hang-up of LLINs in collaboration with other partners. The project facilitated the transport of 1.3 million LLINs from the CMS to districts in the Ashanti and Northern regions for the campaigns. The project collaborates with other partners and the NMCP for the monitoring of the campaigns and provides on-field support for the movement of supplies, recordkeeping, and other logistics-related functions. Prior to the campaigns, the project provides trainings in logistics management for subdistrict supervisors, pre-position site attendants, and volunteers to equip them with requisite skills, including receiving, storing, issuing, and accounting for the nets. The project trained 3,117 district, subdistrict, and pre-positioning site attendants in inventory management to support hang-up of 8,083,238 LLINs in Ashanti, Upper West and Upper East, Brong Ahafo, and Northern and Greater Accra regions.
- **Post-hang up validation exercises:** After each campaign exercise, the project led a team of partners to carry out post-LLIN hang-up campaign validation. The project shared the tools and provided training to personnel of the NMCP to conduct post-campaign validation in the non-PMI regions. The validation exercise is aimed at documenting the quantities of LLINs hung and also verifying all documentation related to the management and distribution of the LLINs. Overall, the validation exercises have indicated that no net or other campaign supplies are diverted for other purposes
- **LLIN bag disposal methods:** The project developed appropriate approaches for the disposal of LLIN empty bags resulting from the LLIN hang-up campaigns in a manner consistent with USAID environmental standards and the Environmental Protection Agency of Ghana. The two options identified for disposal are recycling and high-temperature incineration. An Environmental Mitigation and Monitoring Plan (EMMP) for the activity is being developed and will be submitted for needed approvals from USAID. Once approval is provided, an estimated 2.5 million plastic bags stored in four regions will be transported for disposal by recycling into pavement blocks or by incineration at high temperature. Potential facilities for incineration and recycling have been identified locally.
- **Continuous distribution:** The project participated in the development of a continuous distribution strategy for LLINs and provided inputs into the required logistics activities for smooth implementation of the strategy. The project will be supporting implementation of the logistics management aspects of the strategy.



Improve Visibility at All Levels of the Supply Chain from Central Down to the Facility and Community Health Worker Levels

End-Use Verification

TO7 implements the End-Use Verification activity in PMI countries that have a project office. This activity improves the visibility of malaria systems in-country, particularly at the health-facility level, by using survey methodology to capture and report data pertinent to the supply and management of malaria products, as well as information about how malaria is being diagnosed and treated. Since October 2011, the project has continued quarterly rounds of data collection and reporting in Ghana, Malawi, Mozambique, Tanzania, and Zambia. The activity was introduced to Zimbabwe in June 2012 and was carried out during the last two quarters of the year. Nigeria planned to begin End use Verification Activity (EUV) before the end of FY2012, but this was rescheduled for the first quarter of FY2013.

In addition to ongoing data collection efforts, the EUV process was substantially revised and reinvigorated this year in collaboration with PMI and Management Sciences for Health (MSH) to include:

- revising the number of key collected indicators from 37 to 10;
- revamping the reporting process, from a lengthy, 40-page document to a succinct, graphical presentation of indicators and key findings;
- revising and shortening the EUV tool to correspond with the reduction in indicators;
- and improving the sampling methodology for greater statistical validity.

The core team provided direct support to the country offices to adopt these changes and report using the new methodology, requiring substantial coordination with in-country partners (Missions, NMCPs, etc.). These efforts will continue in the coming year. Findings from the activity, as well as recommendations for its future, were presented to PMI leadership in a presentation in July 2012.

PPMRm

The Procurement Planning and Monitoring Report for malaria (PPMRm) provides data on central-level stock availability for malaria commodities: ACTs, SP, and RDTs. The PPMRm was first piloted in October 2008 in 10 countries in sub-Saharan Africa. It has since expanded to 20 countries, including eight Nigerian states. Of these countries, TO7 is responsible for collecting data in nine. Systems for Improved Access to Pharmaceuticals and Services (SIAPS) at MSH is also responsible for collecting data in nine countries. Senegal and Benin also report data through the support of their bilateral projects. The project is still unable to access data from Rwanda and Madagascar.

During the first quarter of the fiscal year, newly redesigned data collection forms were rolled out in all 19 reporting countries, and the streamlined report was produced for the first time for dissemination to PMI. The second quarter of FY12 saw the addition of one country: Guinea. During FY12, PMI used the PPMRm to address stockout situations in a number of countries through the provision of critical emergency shipments and to highlight potential supply problems before they happened.

Figures 9 and 10 show central level stockouts of AL and AS/AQ FDC, by calendar year, as reported through the PPMRm. For AL, percentage of countries (and Nigerian states) stocked out reached a high between April and June 2011, with significantly reduced central-level stockouts reported for July–September 2012. Figures 11 and 12 show the number of countries with more than 3 months of stock at the central level for AL and AS/AQ FDC, by calendar year, as reported through the PPMRm. Figure 13 shows the number of countries stocked out of SP. These figures illustrate a general upward trend since the low point of April–June 2011.

Figure 9. Number of Countries Reporting Stockouts of AL Products

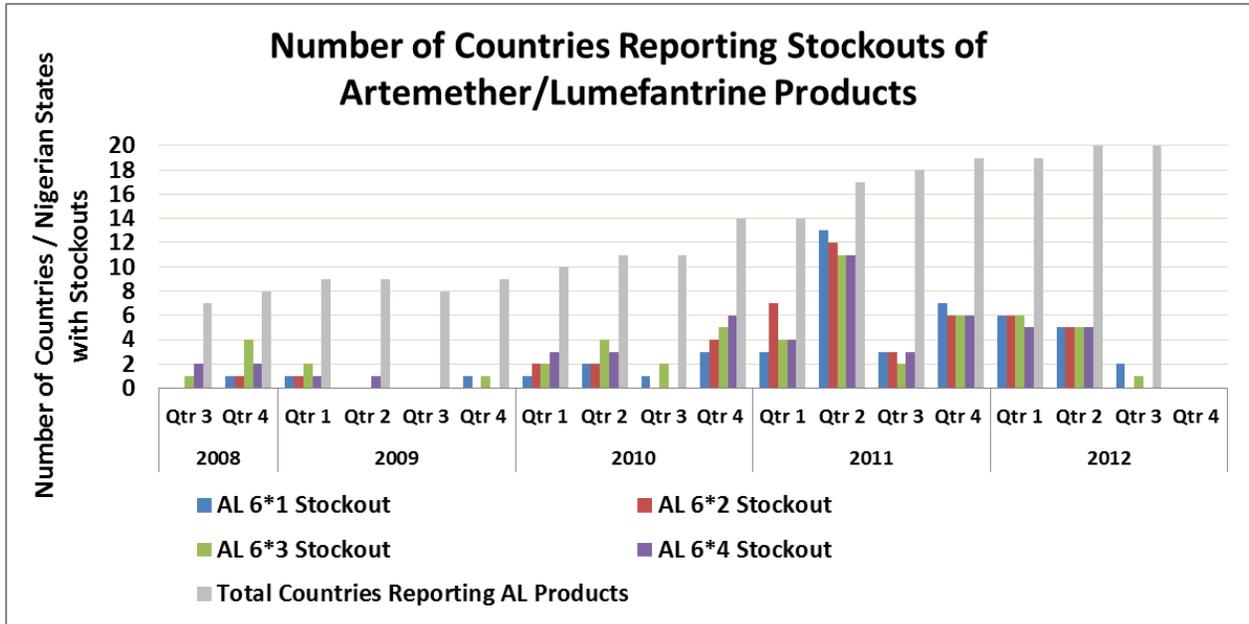


Figure 10. Number of Countries Reporting Stockouts of AS/AQ Fixed Dose Combination Products

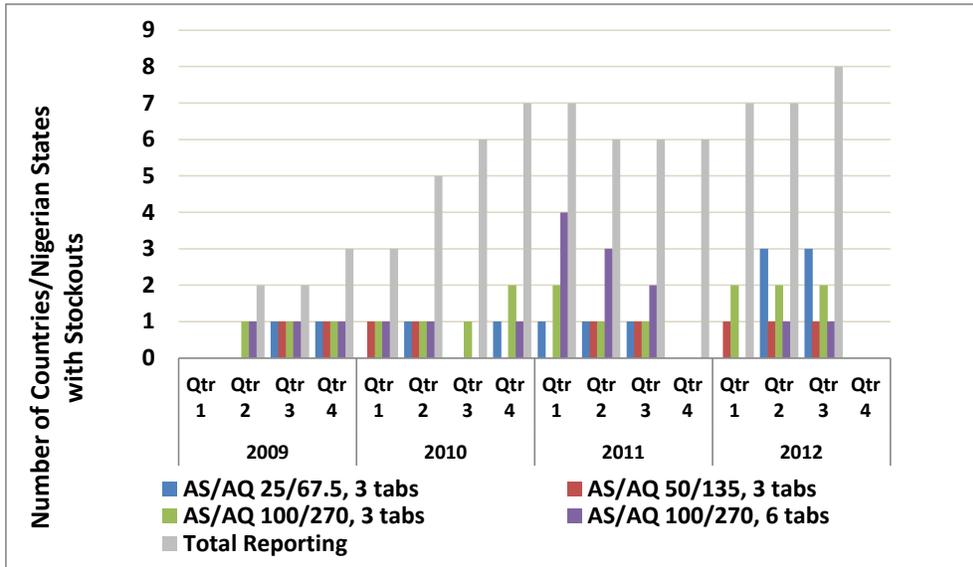


Figure 11. Total Number of Countries/Nigerian States with More Than 3 Months of AL at the Central Level (source: PPMRm)

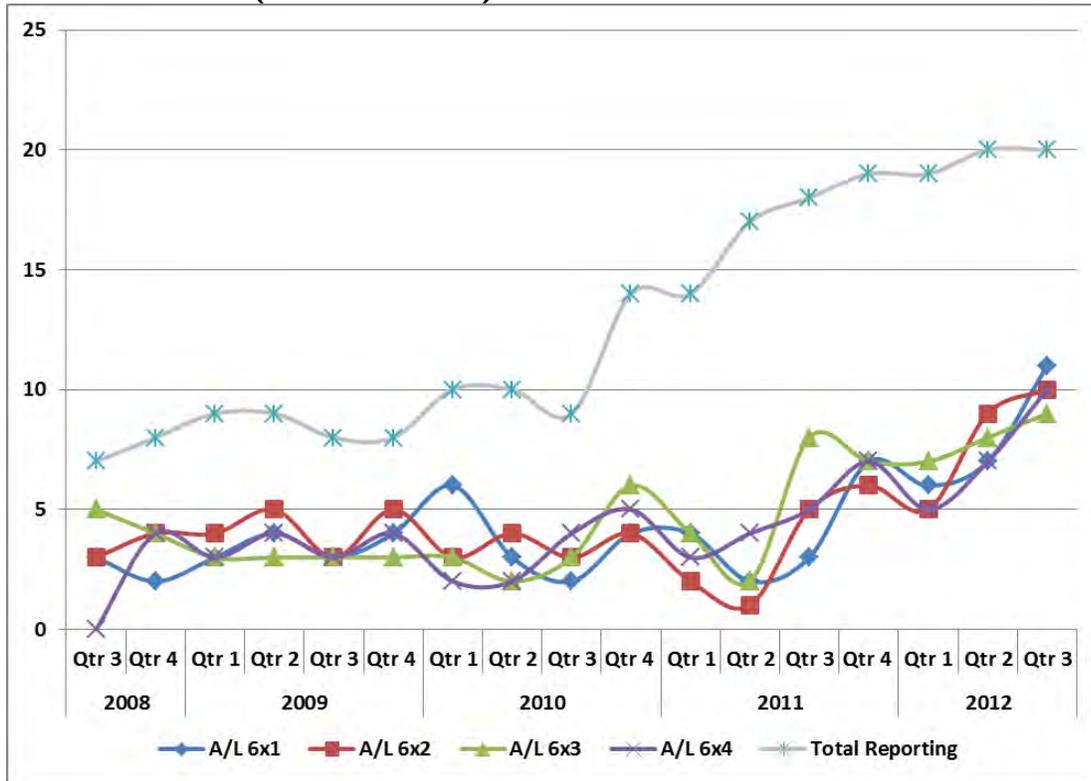


Figure 12. Total Number of Countries with More Than 3 Months of AS/AQ FDC at the Central Level (source: PPMRm)

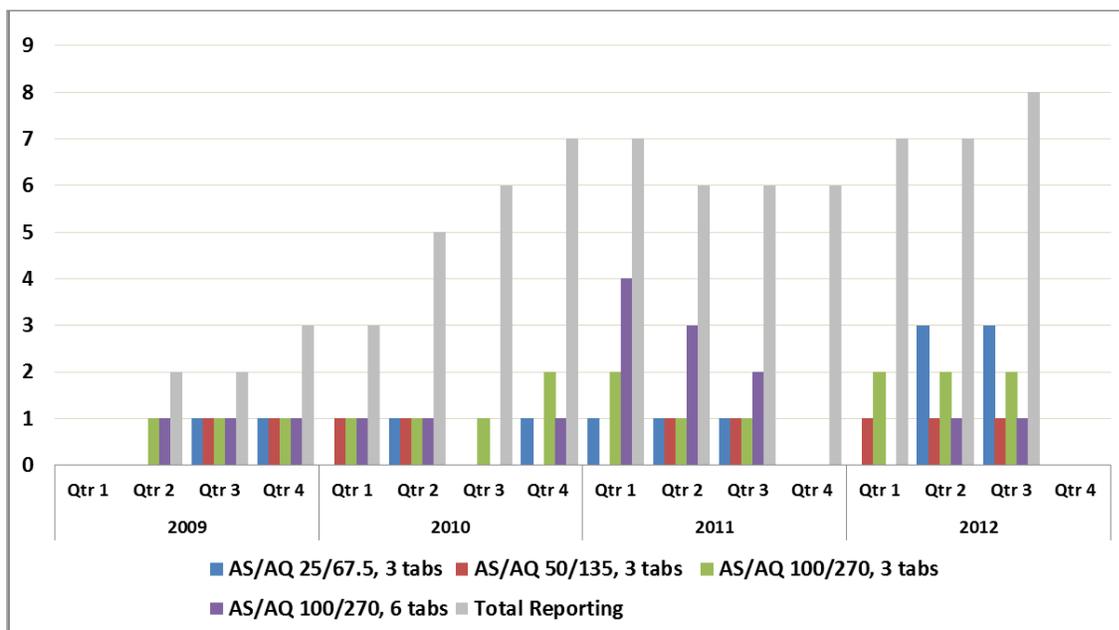
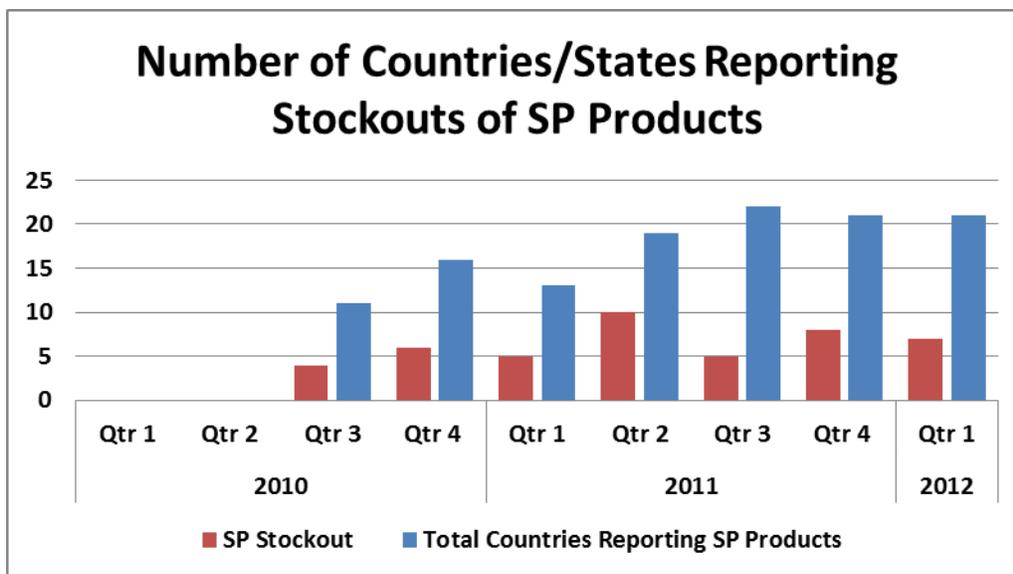


Figure 13. Number of Countries Reporting Stockouts of SP



*The availability of SP for the preventive treatment of women during pregnancy is of increasing concern among PMI countries, with stockouts of this product slightly higher than AL products. Stockouts in the last two quarters were in several Nigerian states, as well as Guinea and Uganda. The contribution of Nigerian states to total SP stockouts is substantial. Eight states reported the following stockouts: Q4/2010 (1); Q2/2011 (6); Q3/2011 (3); Q4/2011 (6); Q1/2012 (5); Q2/2012 (8); Q3/2012 (7).

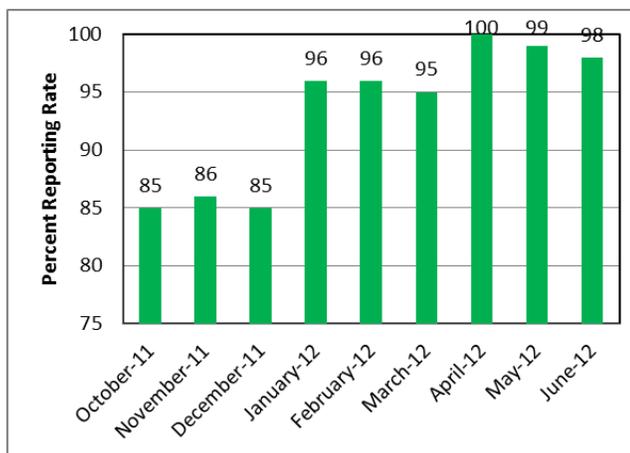
Country Highlights

Burkina Faso

The project provides technical support to the NMCP on a quarterly basis for the analysis of data in the malaria database. The project also supported the NMCP to train 80 people (63 district stores managers and 17 newly hired data managers at the district and hospital levels) on the malaria database. The objective of this training was to improve collaboration between district store managers and district data managers, thus improving logistics data reporting. The database shows that:

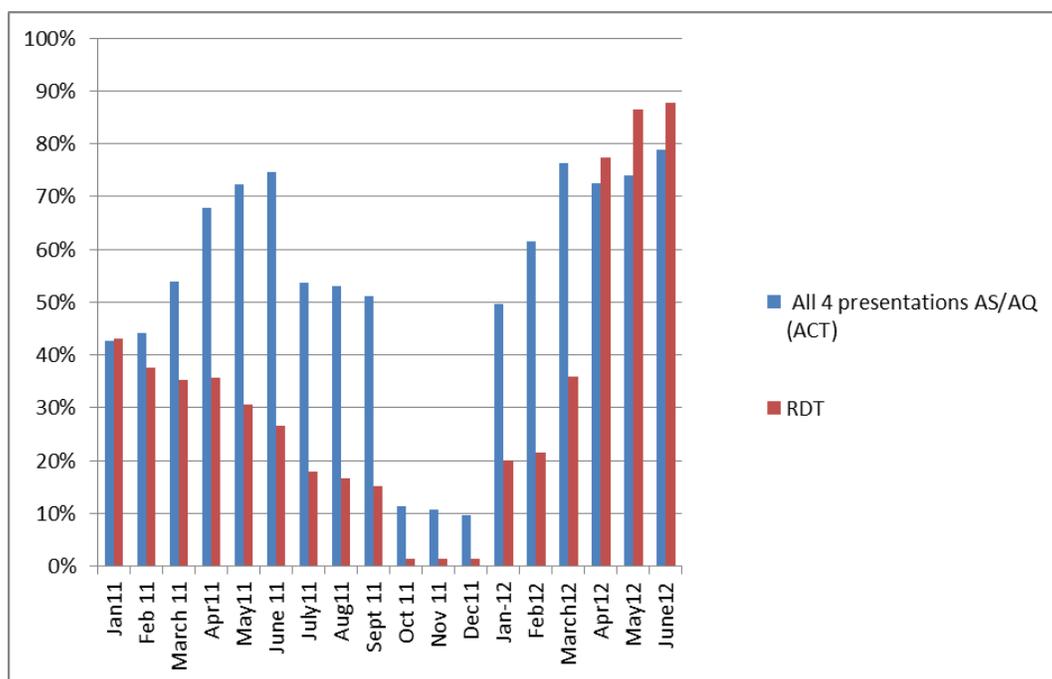
- The facility-reporting rate has increased from an average of 85 percent in October 2011 to 98 percent in June 2012 (figure 14).
- The percentage of health facilities with availability of all 4 ACT presentations has increased from 11 percent in October 2011 to 79 percent in June 2012. For RDTs, this has increased from 1 percent in October 2011 to 88 percent in June 2012. (figure 15)

Figure 14. Health Facility Reporting Rate from Oct. 2011 to June 2012 (Malaria database)



- The number of malaria cases has decreased slightly between 2010 and 2011, from 5,723,481 to 5,024,697, and the number of deaths due to malaria decreased from 9,034 to 7,001.

Figure 15. Percentage of Health Facilities Availability of All 4 Presentations of AS/AQ and RDTs per Month from Jan. 2011 to June 2012



Nigeria

Nigeria has been selected to implement a pilot study to test the feasibility and impact of a vendor managed inventory (VMI) system in two states, Ebonyi and Bauchi. Within this system—called the Direct Delivery and Information Capture (DDIC) system—delivery trucks serve as mobile warehouses that visit selected health facilities on a bimonthly basis to collect data on stock on hand and top facilities up to their maximum stock level. Sixteen commodities have been selected for inclusion in the pilot, including malaria, family planning, and reproductive health commodities. In total, 200 health facilities in Ebonyi and 167 health facilities in Bauchi have been selected to receive product through the pilot. In the third and fourth quarters of FY12, the project conducted a system design workshop with the state ministry of health and other stakeholders from either states, adapted the software that calculates the resupply quantities, published a Request for Proposal (RFP) to subcontract the transportation of the pilot, reviewed vendor transportation bids, developed standard operating procedures (SOPs) for the teams conducting the delivery runs and the state level managers of the pilot, collected baseline stock on hand data from a representation of facilities in either states, and acquired donor commitment to maintain the needed supply of the products included in the pilot. The first delivery runs are expected to commence in January 2013.

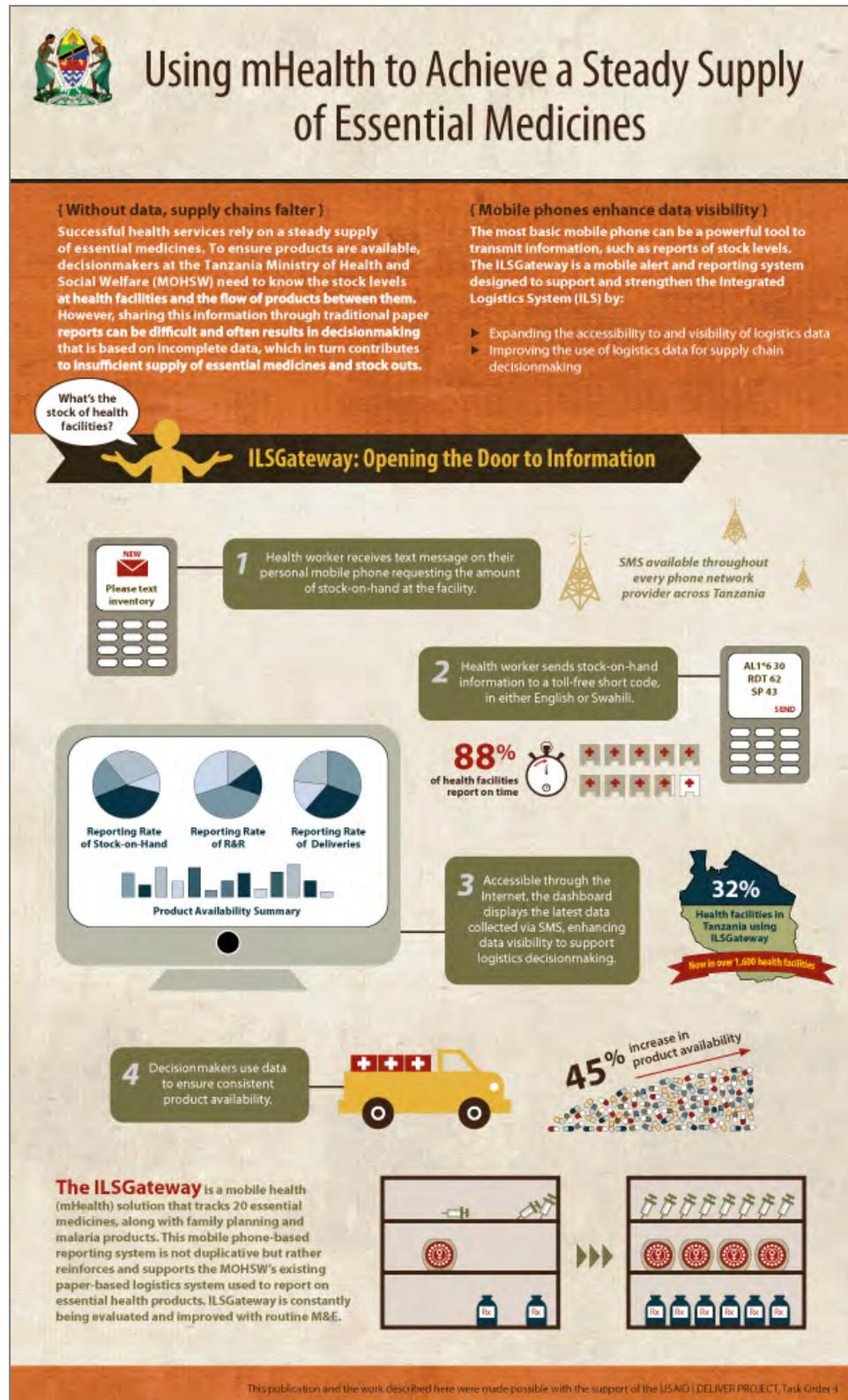
Rwanda

The project supported the MOH in Rwanda to enhance the routine use of geographic information system (GIS) outputs to manage and monitor the national health commodity supply chain. Mapping LMIS data to their geographical locations will provide more visibility to the outputs of the supply chain system. In June 2012, a GIS capacity building workshop was held to provide an introduction to GIS within the context of supply chain management of health commodities. Following the workshop, it is planned to have an open forum to engage both users and producers of GIS outputs to discuss the highest priorities for using GIS with the management of supply chain management of health commodities in the Rwandan context.

Tanzania

The ILSGateway reporting system, an SMS-based facility level stock status data collection tool, was rolled out to 1,600 of the 5,000 health facilities in Tanzania. The ILSGateway provides real-time stock status information on malaria commodities to decisionmakers throughout the supply chain. Results from the ILSGateway evaluation in November 2011 indicated that 97 percent of facilities improved their on-time submission rates for stock reports. A further 93 percent improved their stock counting exercises because of the routine mobile alerts they received. Importantly, 45 percent of facilities reported improved product availability, indicating the overall positive effect the ILSGateway has had on the medicine supply system in Tanzania. Figure 16 below shows the step-by-step process of how ILS gateway works.

Figure 16. ILSGateway Infographic



Zimbabwe

Support to ZIP/PHCP system and AutoDRV. The project continues to support the routine distribution of malaria products for the Zimbabwe Informed Push/Primary Health Care Packages (ZIP/PHCP) system. On ZIP deliveries, logistics data are collected from facilities using the Automated Delivery/Receipt Voucher (AutoDRV). After deliveries, data from AutoDRV are aggregated through the Top Up software. National level consumption and stock-on-hand data are available quickly for decision making purposes. From the September delivery round, 99 percent of facilities received a delivery, and stockout rates for ACTs averaged 6.5 percent. The project continues to support the MOHCW in conducting ZIP/PHCP SOP trainings nationwide. Figure 17 below shows the process of information capture and aggregation for the ZIP system, which spans across 1,300 health facilities.

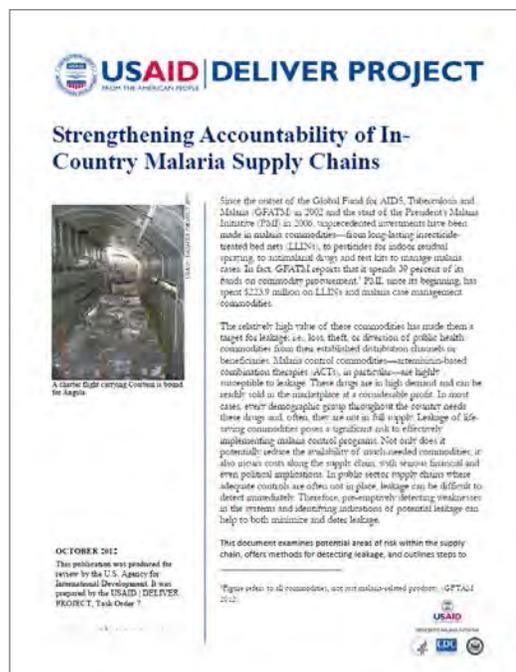
Figure 17. Automated Logistics Data Collection in Zimbabwe



Strengthen the Accountability of In-Country Supply Chains That Manage Malaria Products

Guidance Document on Defining and Measuring Leakage

ACTs are particularly susceptible to leakage: they are in high demand and can thus be readily sold in the marketplace, in most cases they are needed throughout the country by every demographic group, and they are often in non-full supply. Unfortunately, most countries do not have the necessary information to determine the type, location, or quantity of leakage happening in their logistics system. The project developed a guidance document on how in-country supply chain managers could strengthen the accountability of in-country supply chains. The document defines leakage and offers different ways of measuring leakage in a logistics system, from the beginning to the end of the in-country supply chain, and presents recommendations for how to address leakage.



Country Highlights

Angola

Having previously had success in orchestrating the delivery of multiple commodities via a single charter flight into Luanda, the project—in December and again in June—secured government permissions and exemptions that allow PMI cargo to be immediately cleared at the airport and loaded onto contracted vehicles. The consolidated shipping of freight has eliminated the need for any warehousing at the central level and has facilitated the immediate dispatch of commodities to the provinces where, in some cases, delivery is made on the same days as the air charter's arrival.

Ghana

The project, working through a Technical Working Group of the MOH, is assisting the MOH to develop a 5-year Supply Chain Master Plan for the country. The plan seeks to ensure commodity security of health commodities across all the levels in the health system. Strategic interventions, an implementation plan, and associated costs have all been developed.

Liberia

The project assisted National Drug Services (NDS) and selected CHTs to optimize routing and the development of a fleet management system. The project assisted NDS in the roll-out of the warehousing and distribution process SOPs in selected counties.

As part of the roll-out of the warehousing SOPs, the project assisted the NDS in conducting a physical count and update of stockkeeping records. In collaboration with the NDS staff and four part-time data entry clerks, the team was able to update bin cards for malaria, tuberculosis (TB), human immunodeficiency virus (HIV), and acquired immune deficiency syndrome (AIDS)

commodities to facilitate a smooth transition to the Transactional Management Information System (TMIS).

Malawi

Installation and ongoing support for Supply Chain Manager (SCMgr) (LMIS) software at central and district levels, along with creation of a national stock status database (NSSD) at Health and Technical Support Services (HTSS) of the MOH further supports the MOH in pipeline monitoring, supply planning, and data sharing on stock status and consumption.

The project provided support for the reintroduction of ACT, dispensing registers countrywide to help improve case management and tackle the issue of ACT overuse. Approximately 1,780 health workers were trained to use the ACT dispenser register and 36 trainers are ready to train health workers on the ACT dispenser register.

Rwanda

The project conducted a supply chain–costing exercise in May 2012. The purpose of this activity was to determine the total national supply chain costs associated with donated commodities, determine costs by tier (central, district, facility, community) and by main supply chain function (procurement, transportation, storage, and management), determine the unit costs of supply chain operations, and generate information to examine the financial viability of the Medical Procurement and Distribution Division (MPDD) currently. Recommendations made were that the MPDD should charge a uniform, service-based fee for storage and distribution versus storage, distribution, and procurement, charge donors its service fee on product going out of MPDD rather than product coming in, conduct an inventory analysis to identify causes of product expiries at the central level, maintain monthly deliveries to district pharmacies, and should review the financial sustainability of district pharmacies. The preliminary results were presented to government and USAID counterparts, and a final report was completed.

Tanzania

The project has implemented a Quarterly ACT Tracking and Monitoring Report to identify discrepancies between product quantities issued from the MSD central and zonal warehouses with the actual stock on hand at the facility level in Tanzania collected during the EUV. This tool provides insight into the movement of ACT through the national supply chain and the threat posed by leakages outside the country.

Zambia

In quarter 2, the project worked with Deloitte to support the Supply Chain and Logistics Internal Control Evaluation (SLICE) report. The evaluation included some of the products that the project uses as tracer products and showed that some products to the value of \$546,000 were unaccounted for. Medical Stores Limited (MSL) prepared a response to the audit that addressed \$532,000 of the variance. Their view was that the figure does not represent a stock loss but rather a reflection of an inaccurate previous stock take that overstated stocks on the system at the time. In the response, the key challenge in maintaining accurate stock location is the installation of sufficient racking to allow MSL to store each pallet in a unique location. They have begun to implement interventions towards this. The project now participates in the inventory count at MSL at the request of USAID. Moving forward, project staff will participate in quarterly stock counts, provide technical assistance on warehouse management and maintenance of accurate records, and enhance central level of

commodity accountability. The project will monitor incidents and duration of stockouts at the MSL warehouse and share information with MOH and partners to take action. Additionally, the project will address previously identified USG-funded audit issues at MSL by facilitating two external audits of the stock situation at MSL.

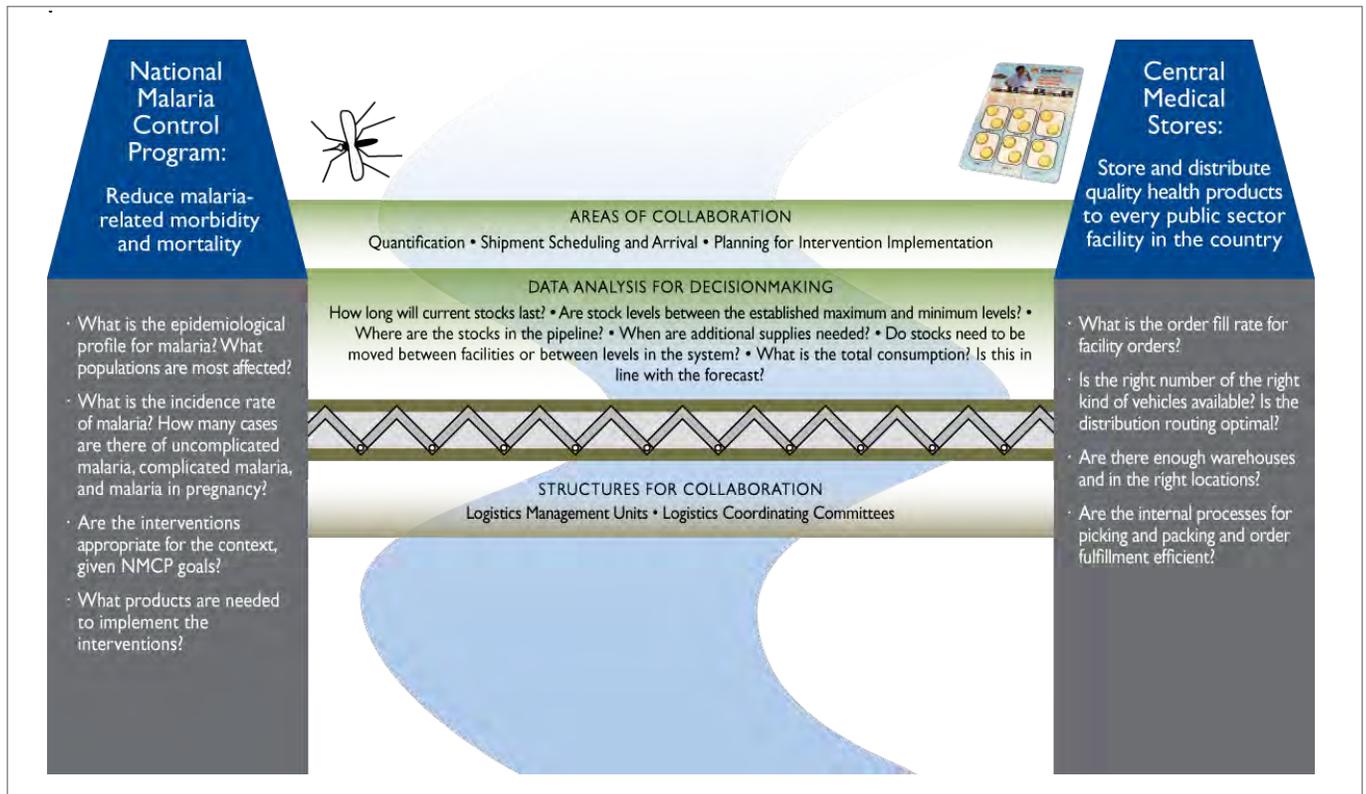
Bridge the Gap Between NMCPs and Supply Chain Operators to Improve Core Supply Chain Functions

Technical Guidance Document on Bridging the Gap

Managing logistics systems effectively requires the involvement, support, and collaboration of sometimes disparate stakeholders. Two stakeholders key to this collaboration are the NMCPs and the CMS. The project developed a technical guidance document that explores the relationship between NMCPs and CMS using country examples and offers suggestions for how the gap between programs and CMS can be bridged, specifically with regards to the collaboration on ensuring product availability. Figure 18 shows the ways in which NMCPs and CMS can be bridged.



Figure 18. Bridging NMCPs and CMS



Country Highlights

A number of country offices used quantification exercises and reviews as opportunities to bring NCMPs and CMS closer together. Some highlights include:

Liberia

In the first quarter, with funding from GFATM and in collaboration with the government, the project conducted a quantification review for essential drugs, malaria commodities, and contraceptive forecast. The activity contributed to the efforts of building the government's capacity in quantification review and supply plan.

During the regular meeting of the Private Sector ACT (PSACT) Technical Working Group, the project was requested to chair the forecasting and quantification team tasked with estimating the ACT needs and proposing a supply schedule. A meeting was held with stakeholders, during which assumptions for the quantification were developed and the forecasting tree was generated. The quantification results were then presented to the PSACT Technical Working Group meeting.

Malawi

Although the HTSS department of the MOH has limited human resources, with the support of the project it conducts an annual quantification exercise covering all health commodities, including family planning and malaria products. The last quantification exercise, conducted in March–April 2012, was a major exercise that estimated future needs for almost 600 essential items covering contraceptives, essential medicines, malaria supplies, laboratory commodities, dental supplies, Integrated Management of Childhood Illness (IMCI) medicines, radiography, and tuberculosis medicines. The exercise, which was preceded by a physical inventory, was hampered by lack of accurate logistics, service, and morbidity data, which constrained the ability of the team to come up with accurate forecasts. In addition, there were challenges in finalizing quantification reports. To date, periodic reviews of the forecasts have not been done due to central level budgetary issues and the pressures of other work on MOH staff.

Mozambique

In collaboration with the ministry and with assistance from Supply Chain Management System (SCMS) staff, project staff led the ACT quantification exercise for the next 4 years. One of the outcomes of this quantification exercise was the recommendation to rebalance the quantities of each presentation packed in the malaria kits to reflect the forecasted requirements for each of the four different presentations of AL and also to include an appropriate quantity of RDTs within the same kit. With this change, the project and the ministry will be able to not only ensure availability of both ACTs and RDTs in the health facilities but also monitor the impact that this has on AL consumption, learning valuable lessons that can then be applied to the community health worker (APE) program.

Zambia

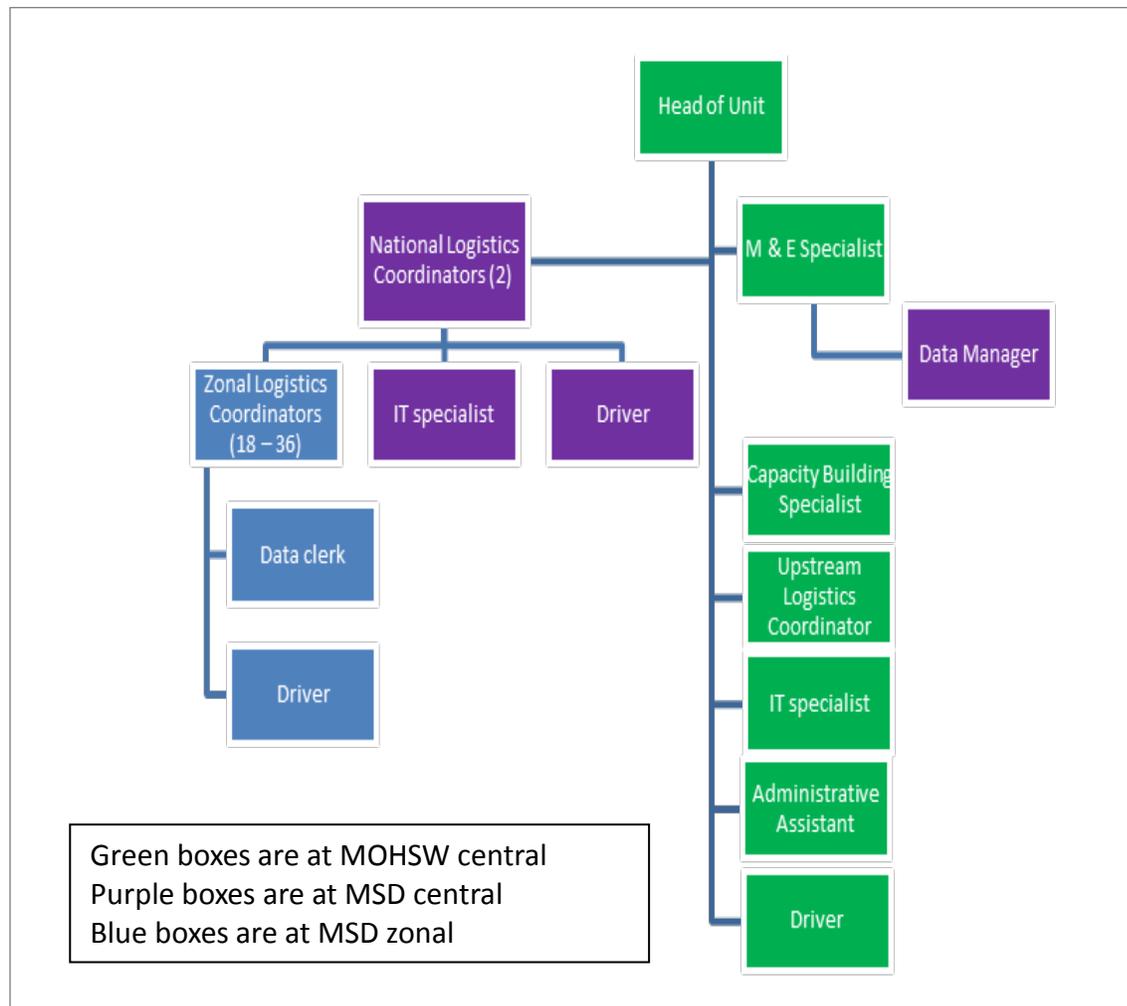
The ministry, with support from the project, continued to focus on mobilization of resources necessary for provision of other essential commodities as EMLIP continues to roll out to the remaining districts. The key activity in this regard is continued support of a coordinated, transparent ministry-led forecasting and quantification exercise in collaboration with National Malaria Control Centre NMCC and other key cooperating partners. Results attained from this activity have been the basis of formulation of a national supply plan with procurement contributions for all stakeholders

including PMI and DFID. This has also facilitated determination of a funding gap for commodity procurement. The gap analysis has been critical in identifying unmet need and supporting USAID in leveraging MOH's need to increase funding allocation towards provision of antimalarial commodities.

Tanzania

In Tanzania, the project collaborated with the Ministry of Health and Social Welfare (MOHSW) to conduct a LMU system–design workshop. The LMU's functions, structure, resources required, and roles and responsibilities were defined and national level stakeholder approval has been received. The LMU will be the structure responsible for coordinating logistics management activities of different commodity categories under one unit and would also focus on bringing the NMCP, Pharmaceutical Supply Services and MSD together to better manage public health commodities. The project and its partners have succeeded in assembling a task force charged with overseeing the implementation of the LMU by developing terms of reference, securing participation of the necessary stakeholders, and developing an implementation plan for FY13. The organogram for the LMU is shown in figure 19 below.

Figure 19. Organogram of the Logistics Management Unit in Tanzania



Supporting Logistics Coordinating Committees and Structures

In all field offices, project staff participate in supporting logistics coordinating committees and structures. Country-specific examples include the following:

- In **Burkina Faso**, the project continued to provide support to monthly ACT committee meetings. Points discussed include malaria commodity supply plans, ACT stock situation, and mobilization of government budget for commodity procurement through the Central Medical Store, Essential and Generic Medicine Procurement Agency (known by its French acronym CAMEG). Follow-up was done with the principal partners funding malaria commodities (GFATM, World Bank [WBG], USAID/PMI, MOH) and CAMEG for timely ordering and delivery of malaria commodities to avoid stock outs.
- In **Liberia**, the project supports the NMCP and Supply Chain Management Unit (SCMU) in reviewing the malaria commodities monthly stock status reports from the county depots and NDS. The review enabled them to determine the resupply quantities for the quarterly distribution.
- In **Ghana**, the project coordinates with the Procurement Unit, the Stores, Supplies and Drug Management SSDM, Ghana Health Service (GHS) and NMCP on the status of procurement of antimalarial medicines and RDTs. The project monitors the stock status of malaria commodities on a monthly basis largely at the central level, with some regional level monitoring, and shares the report with key partners for decision making. The project also participates in the GHS organized National Peer Review Meetings of logistics and supply chain practitioners from the MOH and the GHS. The objective is to review implementation of strategies towards improving commodity security within the public sector. During these meetings, findings from the various monitoring and supervisions are highlighted and discussed so that the participants understand the key challenges in supply chain management systems and how their work can support resolution issues identified.
- In **Madagascar**, the project participates in the Malaria Acquisition, Supply & Stock Management Committee Meeting also known as Gestion de l'Acquisition de Stock (GAS committee). In collaboration with the GAS working group, the project helped develop a comprehensive template for the monthly tracking of stock on hand, deliveries, consumptions, and orders to include the private sector in the national commodity pipeline. The aim was to improve coordination of the private supply chain amongst members with the objective of obtaining data from the private sector to better strategize overall commodity management for the country. This will further enhance the coordination of procurement planning for the country.
- In **Malawi**, Coordinated with SCM with support for various technical working groups (TWGs), District Health Management Teams (DHMTs), and Commodity Security Committees.
- In **Mozambique**, The Malaria Working Group includes members from both the NMCP and CMS, allowing for a continuous flow of supply chain-related information between these two groups, facilitated by the project. As in previous years, project staff participated in Malaria Technical Group monthly meetings, where they had the opportunity to provide input to the NMCP provincial-level supervision plan, the M & E Plan for 2012–2016, and the strategic plan for 2012–2016. Both groups are also represented in the teams of data collectors that conduct the End Use Verification exercise, strengthening this collaboration.

Once Systems Meet Performance Levels, Build Local Capacity to Sustain System Performance

Country Highlights

Burkina Faso

The project trained the technical working group (TWG) on the quantification methodology of mosquito nets for mass distribution (methodology recommended by RBM). The total estimated needs were included in the Burkina transitional funding mechanism (TFM) proposal. The TWG on malaria commodities quantification is composed of six members from NMCP (one person), CAMEG (two persons), Pharmacy Department (two persons), and the Maternal and Child Directorate (one person), with technical support from the project. If the members of the quantification team do not change, then the current malaria commodities quantification team can now perform with minimal technical support from the project.

Liberia

The project supported capacity building of MOH county health office Data Entry Clerks in the use of SCMgr and of the SCMU in generating performance feedback reports. The exercise lasted 3 days. Emphasis has been placed on Montserrado County. Data analysis process is ongoing to aid in Monthly Supportive Supervision to facilities with challenges in reporting; this is done in collaboration with the County Health Team. The project supervises periodic data entry into SCMgr at the county level. Data from the CHT are entered into SCMgr and reports generated are analyzed by CHT and the project for sharing of performance feedback with stakeholders, which helps in supervision and monitoring.

Malawi

The project conducted training of various cadres, including 18 training-of-trainers (TOT), 946 health surveillance assistants (HSA), and 5 district pharmacists in supply chain management and 476 health facility charges who were trained to supervise and mentor HSAs working in drug stores. In addition to in-service training, the project participated in the pre-service training review meeting where supply chain management training materials for both lecturers and students were successfully reviewed with proposition to add some material on PipeLine software management.

Mozambique

Project staff have begun the process of recruiting four advisers who will be based outside Maputo: three will be responsible for the North, Central, and Southern regions, and the fourth will oversee activities in Zambezia Province. Having locally based staff is expected to build the capacity in distribution, reporting, and ordering (particularly for malaria commodities) at lower levels of the supply chain, with the advisers serving as mentors and troubleshooters, assisting local staff in identifying solutions to problems encountered.

The project received permission from both the MISAU and the CMAM to implement a competency-based national training program for staff from provincial and district warehouses, hospitals, and health units as well as for APEs. In collaboration with the MISAU and the NMCP, project staff designed an interactive training manual that covered the via Classica (pull system), malaria commodities, antiretrovirals (ARVs), and other vertical programs. Along with updated forms, the training manuals were then printed and distributed for use at all levels. By the end of the

training, an estimated total of 2,350 health workers, representing all service delivery points and storage facilities nationwide were trained.

Tanzania

In Tanzania the project has placed and seconded Public Health Logistics Advisors (PHLA) in the regional MSD offices to provide technical assistance to the health facilities and the district supervisory team, facilitate communications between MSD, district and the facilities, identify potential logistics issues before they occur, fix issues, or relay the information to higher levels for possible solutions to the problems identified to ensure that service provision is not interrupted. The PHLAs gather essential logistics information from each level of the supply chain to inform logistics managers at each level of the supply chain towards effective commodity management decisions. The PHLAs will continue to gather key logistics data and conduct analyses for decisionmakers as the LMU is implemented and will serve as capacity building advisors for LMU ministry staff.

Zambia

Following the 5-year forecast for malaria medicines and RDTs successfully conducted in November 2010, the MOH/NMCC—with support from the project—conducts annual and biannual review meetings to ensure that the forecast accuracy is increased. It is during these critical meetings that the project strategically schedules NMCC staff to increase the level of participation by taking on more active roles in the entire process. This has led to skills building and increased acceptability of the process and the program as a whole by ministry staff and stakeholders alike.

The project continued to provide mentorship to the LMU to ensure that continued quality standards are met, building in-country capacity with an aim for sustainable management that is ultimately not project-dependent.

Table 5. PMP Indicators for Objective 2, October 1 2011-September 30, 2011

Support Area	Operational Area	Indicator	Status
Monitoring of in-country supply chain performance	Providing information about in-country supply chain performance	Facility stockout rate: the percentage of facilities that experienced a stockout of a product expected to be provided or issued by that site on the day of the visit	See appendix G.
		Country stockout rate: the percentage of countries experiencing a stockout at the central warehouse(s) at the time of reporting	See appendix G.
		Functioning LMIS: percentage of countries where an LMIS is present that routinely collects and reports stock status data (i.e., stock on hand and consumption data) from all SDPs in the country	5/11 = 55% For a full list of the countries and further explanation about the LMIS, see appendix G.

Support Area	Operational Area	Indicator	Status
Short-term technical assistance (STTA)	Respond to STTA needs as per mission request to strengthen in-country supply chain management for antimalarial commodities	Timely response to ad hoc technical assistance (TA) needs: % of STTA trips per Mission's/PMI Washington ad hoc request conducted on time	7/7 = 100% Burundi (1); DRC (1); Malawi (2); Tanzania (2); Zimbabwe (1)
Long-term technical assistance (LTTA)	In-country supply chain strengthened or improved	Quantity of antimalarial commodities (LLINs, SP tablets, ACT treatments, RDTs) distributed in-country using funds obligated to the project	<p>Angola:</p> <ul style="list-style-type: none"> - 862,150 RDTs - 3,600,000 ACTs <p>Benin:</p> <ul style="list-style-type: none"> - 499,300 LLINs <p>Burundi</p> <ul style="list-style-type: none"> - 415,000 LLINs <p>Burkina Faso: N/A</p> <p>DRC:</p> <ul style="list-style-type: none"> - 4,465,000 ACTs - 3,500,000 RDTs <p>Ghana:</p> <ul style="list-style-type: none"> - 8,083,238 LLINs <p>Kenya: N/A</p> <p>Laos:</p> <ul style="list-style-type: none"> - 28,900 LLINs - 6,673 LLINs (hammock) <p>Liberia: N/A</p> <p>Madagascar:</p> <ul style="list-style-type: none"> - 929,610 RDTs - 3,987,620 Gloves - 435,564 ACTs - 1,108,000 LLINs - 1,025 Safety boxes <p>Mali:</p> <ul style="list-style-type: none"> - 2,596,770 ACTs - 1,100,000 RDTs - 1,593,000 SP <p>Malawi:</p> <ul style="list-style-type: none"> - 4,179,352 ACTs - 3,788,113 RDTs - 800,000 SP <p>Mozambique:</p> <ul style="list-style-type: none"> - 2,830,380 ACTs <p>Nigeria:</p>

Support Area	Operational Area	Indicator	Status
			<ul style="list-style-type: none"> - 1,630,530 ACTs - 343,175 RDTs - 4,945,725 LLINs Rwanda: <ul style="list-style-type: none"> - 1,000,500 LLINs - 500,010 RDTs - 200 Microscopes and accessories - 20,000 Ferrous sulphate - 1,000 Mebendazole Southern Sudan: N/A Tanzania: N/A Uganda: N/A Zambia : <ul style="list-style-type: none"> - 217,836 ACTs - 833,000 RDTs - 6,800 Other lab Zimbabwe*: <ul style="list-style-type: none"> - 1,085,396 ACTs - 1,448,730 RDTs - 929,282 SP - 170,079 Quinine tablets - 477,340 Quinine ampoules - 457,000 LLINs
		Percentage of countries receiving field support TA funds reporting on supply chain performance via the EUV	6/9 = 67% Burkina Faso: No Liberia: N/A Ghana: Yes Madagascar: No Malawi: Yes Mozambique: Yes Nigeria: No Rwanda: N/A Tanzania: Yes Zambia : Yes Zimbabwe: Yes For further explanation, see appendix G.
		Number of individuals trained in the supply chain management of malaria commodities	TOTAL: 16,649 Burkina Faso: 6 Ghana: 3,163 Liberia: 144 Madagascar: 24

Support Area	Operational Area	Indicator	Status
			Malawi: 2,425 Mozambique: 3,893 Nigeria: 2,473 Rwanda: 29 Tanzania: 2,178 Zambia: 510 Zimbabwe: 1,804
		Percentage of countries with field support TA funds reporting central-level stock levels of select malaria products in quarterly stock monitoring reports	9 / 11 = 82% Burkina Faso: yes Ghana: yes Liberia: yes Madagascar**: no Malawi: yes Mozambique: yes Nigeria: yes Rwanda**: no Tanzania: yes Zambia: yes Zimbabwe: yes
		Functioning coordination committee: percentage of countries that have a logistics coordination mechanism in place that includes participation of NMCP and CMS (or their equivalents), with a meeting that takes place at a specifically appointed time (e.g., during a reporting quarter)	TOTAL: 10/11 = 91% Burkina Faso: yes Ghana: no Liberia: no Madagascar: yes Malawi: yes Mozambique: yes Nigeria: yes Rwanda: yes Tanzania: yes Zambia: yes Zimbabwe: yes
		Available supply plans: percentage of countries that have developed supply plans for PMI-funded commodities*	TOTAL: 11/11 = 100% Burkina Faso: yes Ghana: yes Liberia: yes Madagascar: yes Malawi: yes Mozambique: yes Nigeria: yes Rwanda: yes Tanzania: yes Zambia: yes Zimbabwe: yes

Support Area	Operational Area	Indicator	Status
		Number of technical reports or tools developed to support malaria supply chain performance	TOTAL: 30 Core: 9 Burkina Faso: 0 Ghana: 1 Liberia: 1 Madagascar: 6 Malawi: 4 Mozambique: 0 Nigeria: 2 Rwanda: 3 Tanzania: 3 Zambia: 0 Zimbabwe: 1

Objective 3: Improve the Global Supply of Malaria Commodities

Strengthen International Collaboration

Support to the RBM Procurement and Supply Management Working Group

TO Malaria is an active member of the Procurement and Supply Chain Management Working Group (PSM WG). The TO Director is serving as the co-chair for the PSM Bottleneck Workstream. TO7 provided management support to one of the key activities within the workstream—a mapping of Global Fund (GF) PSM-related grant delays. The assessment visits took place in the DRC and Tanzania from mid-March to early April. The RBM-supported consultants prepared both country reports and a synthesis report that combines the key findings from both countries. These reports are now available.

TO7 also participated in the planning and design of a joint RBM and GF Workshop on Resolving PSM Bottlenecks held in Tunis, Tunisia in September 2012. The project prepared presentations on the mapping of PSM-related grant delays and LMIS fundamentals and contributed to the presentation on the ACT Task Force. It also worked with the Zimbabwe delegation on their presentation of the ZIP system. The workshop had 82 participants from 31 malaria-endemic countries.

Participated in the RBM Harmonization Working Group Workshop on the GF Transitional Funding Mechanism

In response to the GF's announcement that it was postponing round 11 and would provide some gap funding through the Transitional Funding Mechanism (TFM), the harmonization working group (HWG) sponsored a workshop for round 11-eligible countries that may be interested in the TFM. TO Malaria provided expertise in PSM during the workshop, including facilitating a session on quantifying ACT and RDT requirements and reviewing individual country gap analyses and PSM plans.

Conduct Analysis of Demand, Supply, and Pricing Issues Affecting the Global Market for Malaria Products

Support to the Interagency ACT Supply Task Force

In September 2011, WHO/GMP established an interagency task force whose mandate is to collect and analyze a holistic set of data to identify countries at risk of ACT shortfalls and to provide recommendations to mitigate the risk. Led by WHO/GMP, task force members include PMI, GF (Affordable Medicines Facility—malaria and Voluntary Pooled Procurement), United Nations Children's Fund (UNICEF), Clinton Health Access Initiative (CHAI), and African Leaders Malaria

Alliance ALMA. The task force was formed in response to concerns that peaks in demand might strain existing production capacity and result in supply shortages at the country level.

Through its members, the task force collects data from countries, manufacturers, and funders. It then analyzes and validates the data, identifies ACT supply shortage risks, and works to mitigate the risks. The task force collects the data quarterly; currently, it is in its fifth round of data collection. TO Malaria is providing data management and analysis support to the task force.

Since October 2011, TO7 has

- worked with task force members to develop and revise country data collection forms for ACTs and RDTs;
- worked with WHO and CHAI to develop the analytic metrics;
- designed and managed a database that automatically imports country and manufacturer data, analyzes it based on defined metrics (using both country and manufacturers data), and produces country specific metrics reports, supply plans and supply graphs;
- established and managed Smartsheets to share data and track actions with all task force members;
- facilitated the collection of country data from PMI countries for four rounds;
- analyzed country data, first manually and then through the database;
- validated data with all PMI countries;
- participated in weekly task force phone calls to discuss potential ACT supply shortages at the country level and to identify strategies to resolve them; and
- contributed to various presentations and reports on the activity and achievements of the task force.

The task force met in February 2012 to review progress to-date and to discuss whether and how the work should continue. It was agreed that the task force would remain active until the RBM board meeting in May, when a more permanent home would be identified. In May, the RBM board agreed that the task force should remain active while it identified a more permanent home. To date, no home has been identified.

The country analysis identified countries at risk of a stockout. Black indicates a current stockout; red indicates that a stockout is expected within the next 6 months; yellow indicates that after 6 months, less than 6 months of stock remains; green indicates that after 6 months, 6–12 months of stock remains; blue indicates that after 6 months, more than 12 months of stock remains; and white indicates either no report or incomplete data. Incompletes designate that a country has submitted some data, but not enough to draw meaningful conclusions (see figures 20 and 21). As figure 20 illustrates, reporting has declined over the rounds. The task force is meeting in November 2012 to discuss its mandate and how to improve country reporting.

Figure 20. Summary of AL Data Received from Priority Countries

	Sep-11				Dec-11				Apr-12				Jul-12			
	Round 1				Round 2				Round 3				Round 4			
	AL 6 X 1	AL 6 X 2	AL 6 X 3	AL 6 X 4	AL 6 X 1	AL 6 X 2	AL 6 X 3	AL 6 X 4	AL 6 X 1	AL 6 X 2	AL 6 X 3	AL 6 X 4	AL 6 X 1	AL 6 X 2	AL 6 X 3	AL 6 X 4
Cote D'Ivoire	Nov-12	N/A	Apr-12	Mar-12	May-12	N/A							Dec-12			
Ethiopia							Jun-12		Dec-12	Dec-12	Dec-12	Dec-12	Jan-12	Not validated		
Ghana		Mar-12	Mar-12	Mar-12	Jun-12	Apr-12	Mar-12	May-12								
Kenya	Nov-12										Dec-12			Not validated		
Malawi										May-12						
Mozambique													July-12	Sept-12		Aug-12
Niger	Oct-12	Oct-12										N/A	N/A			
Nigeria	Dec-12	Dec-12		Dec-12					May-12	May-12	Aug-12	Jun-12				
Tanzania				Nov-12			Jan-12		Dec-12	Nov-12	Apr-12					
Uganda				Nov-12				Dec-12		May-12	May-12	Apr-12				
Zambia		Nov-12	Nov-12	Nov-12	Jan-12	Jan-12							Aug/Sept-12	July-12	July-12	

Figure 21. Summary of AS/AQ Data Received from Priority Countries

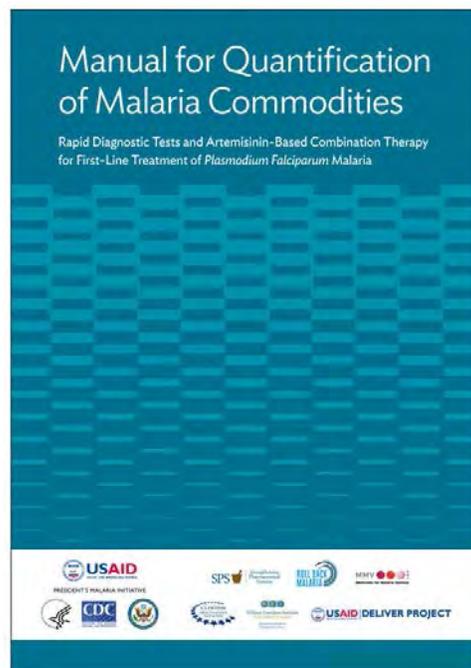
	Sep-11 Round 1				Dec-11 Round 2				Apr-12 Round 3				Jul-12 Round 4			
	infant	toddler	Child	adult	infant	toddler	child	adult	infant	toddler	child	adult	infant	toddler	child	adult
Burkina Faso				Jan-12				Feb-12				Jun-12	July-12			
Burundi													incomplete			
Cameroon		Nov-12														
Cote D'Ivoire	Jan-12	Apr-12	Jan-12	Apr-12	May-12		Jun-12	Apr-12					Not validated			
DRC																
Ghana	Oct-12	Mar-12	Dec-12	Dec-12	May-12	Apr-12	Jan-12	May-12								
Madagascar																
Nigeria	Nov-12	Nov-12	Nov-12	Nov-12									May-12	May-12	May-12	
Sierra Leon	Nov-12	Nov-12	Nov-12	Nov-12												
Sudan							Feb-12	Feb-12					incomplete			

Develop Tools to Address Common Supply Chain Bottlenecks

Quantification of ACTs and RDTs

The project participated in the development of a manual for quantifying ACTs and RDTs. The effort was led by MSH with input from the project, RBM, GF, PMI, the World Bank (WB), Medicines for Malaria Ventures (MMV), and FIND.

During this period, TO Malaria conducted a field test of the manual in Zimbabwe and provided detailed feedback to MSH that they incorporated into the final version. The tool is now available electronically.



LLIN Recycling Pilot Project—Report on Phase III

The final phase (phase III) of the Madagascar LLIN Recycling Pilot Project ended during FY2011; the project prepared a report detailing the outcomes of the study, which was finalized in March 2012. Trex, the plastics recycling company with whom the project had developed a public-private partnership to implement the final phase of the pilot, conducted tests on the old LLINs and was ultimately able to recycle the polyethylene (PE) LLINs into a biocomposite plastic-wood board (see photograph below).

Other lessons learned from phase III of the pilot include the following:

- At this time, PE bed nets can be recycled but polyester (PET) bed nets cannot.
- Recycling LLINs may reduce the amount of waste in landfills, may reduce the risk of water/soil contamination and air pollution, and may decrease dependency on the use of harmful chemicals to treat biocomposite plastic wood.
- At this time, it is not cost effective to collect and recycle old PE LLINs.



Above: biocomposite plastic wood board created out of recycled PE LLINs by Trex. On the right: recycled PET bed nets that cannot be manufactured into a board.

Photo Credit: USAID | DELIVER PROJECT

Table 6. PMP Indicators for Supporting Global Supply and Availability Initiatives

Operational Area	Indicators	Status
Support global and regional stakeholders/ forums of SCM technical issues	Number of global and regional malaria initiatives with USAID DELIVER PROJECT technical participation	4

*There were four initiatives during the report period: the Interagency ACT Supply Task Force (weekly calls and a meeting in February), the Nairobi Workshop, the GF PSM bottlenecks mapping, and the PSM Bottleneck Resolution Workshop in Tunis.

Performance Monitoring

TO Malaria monitors performance using a set of indicators outlined in the PMP and detailed in the Quality Assurance Surveillance Plan (QASP) and Environmental Mitigation Monitoring Plan (EMMP). The indicators, calculated for this reporting period, are included in the relevant sections throughout this document. For additional information, see appendix H.

In addition to the PMP indicators, a set of deliverables has been agreed upon during the work planning process for the fiscal year, including dates of submission. During the reporting period, the project routinely assessed the status of these deliverables at weekly TO Malaria/USAID meetings.

Other less formal methods for performance monitoring and management are also in place, such as weekly TO Malaria/USAID meetings and the distribution of an updated Current Actions Table, which outlines the current status of all TO Malaria procurements. During weekly meetings with USAID personnel and principal project staff, the TO Malaria team discusses all issues related to upcoming procurements and technical activities and determines the best way to address any problems. The project conducts a country-by-country review of all ongoing procurement actions; their status is updated on the Current Actions Table, which is made available every week to all PMI and project managers.

Implementation Challenges and Solutions

Increased Pharmaceutical Procurement Lead Times

Increased global demand for ACTs has placed pressure on qualified manufacturers, and it appears to have increased their lead times. In the last year, ACT supply was complicated further by equipment breakdowns and subsequent process validation at Novartis and production problems at Sanofi, leading to longer-than-expected lead times. The limited global supply of ACTs will continue to be a challenge for the foreseeable future. In the short- to medium-term, the project is working proactively to plan requirements and reserve production slots for country needs and the emergency stockpile. Using data from the PPMRm and other reports on consumption and in-country stock on hand has helped alleviate supply imbalances in some instances. From a more long-term perspective, the project's participation in the WHO ACT Task Force and the recent 3-year ACT gap analysis have enabled TO Malaria to use better information to plan strategically for the future. While the ACT supply landscape remains dynamic, the project is actively positioning itself to respond pre-emptively and flexibly.

Challenges in increased lead times for severe malaria medicines have become more pronounced. For example, lead times for SP are close to 6 months. While the precise reasons for these increased lead times are still being explored, the differences in product specifications from country to country contributes to the complexity of individual procurements as specifications, quality, registration, and availability must be considered.

Additional Challenges for Essential Medicines Procurement

In addition to increased procurement lead times for essential medicines and products for severe malaria, the procurement challenges with these products are perhaps the most demanding because of the range of products and variety of manufacturers and suppliers. Regulatory policy is ever evolving in many of the countries where we work, which makes it difficult for the project, suppliers, and the original manufacturers to routinely track and update registration information. Registration lead times can be very long (more than 2 years in some countries). Because the project primarily works through wholesalers who themselves typically (but not always) rely on a third party to advise them of current registration status, it adds another layer of complexity and often leads to supply delays or failure. Furthermore, the waiver process for essential medicines is often not clear, or conflicting information is made available. The project continues to work closely with field offices in-country and drug regulatory boards and agencies in an effort to maintain accurate and up-to-date registration information; however, the changing landscape of both pharmaceuticals needed and available manufacturers/suppliers makes this process a consistent challenge.

Managing Increased Orders

During the last year, the project has procured 79,001,240 ACT treatments—compared with 46,219,465 treatments in 2011—demonstrating the magnitude of scale-up needed to meet procurement demands. Additionally, the last year has included significant turnover in the procurement team structure and leadership. In response to the growth, the project changed the organization and staffing of the procurement team, which has greatly improved the team’s efficiency and responsiveness. Over the past 6 months, procurement has significantly improved the processing of orders and resolution of challenges in a timely manner.

Data Quality and Availability

Real data on consumption, stock on hand, and shipment information are necessary to effectively plan for countries’ commodity needs. The project relies on central- and facility-level data from various sources, such as the PPMRm, EUV, and LMIS. Data availability over time, as well as quality of the data, varies significantly by country. As public health supply chains mature, consumption and stock on hand information, as provided by a LMIS, becomes crucial for use in a decisionmaking role. Some of the countries where the TO works have a functioning LMIS. Unfortunately, for a variety of reasons, the quantity, quality, and regularity of the data provided is sometimes questionable, which diminishes overall confidence in the system. Where LMIS systems are already in place, the project is focused on strengthening these existing systems to ensure that the data moving up and down the supply chain is reliable. In other countries, the project continues to work hand-in-hand with government counterparts to put practical and reliable information systems into place.

Additional steps to improve data availability are ongoing at the country level. There are still significant sensitivities around the sharing of Ministry of Health-owned data in multiple countries. In Rwanda, the project has had ongoing difficulties accessing key supply chain indicators for malaria commodities. The MOH is still reluctant to share data points routinely, and when data are shared, there is often reluctance for the information to be disseminated beyond project staff. Progress toward data access has been made in Tanzania. In Tanzania, an electronic logistics management information system eLMIS is currently being developed, which—after it is operational—will improve the prospect of accessing more routine and reliable data on stock levels and stockouts for malaria and other commodities moving forward.

Governance Challenges to In-Country Activities

Governance issues at the country level continue to present significant barriers to project implementation in a variety of countries. Both political and practical challenges result from these situations; they have a direct impact on TO Malaria’s ability to both work with host country systems and support their supply chains. While support has resumed in Mali following a recent coup, ongoing political and security challenges prevent the scale of operations originally planned for the country under the TO.

In Madagascar, continuing prohibitions against working directly with the Government of Madagascar have posed real challenges to commodity distribution, which cannot be organized or managed in collaboration with government-owned health facilities.

In Malawi, a severe fuel shortage early in the year threatened ongoing national commodity distributions. In response to this, the project implemented creative solutions for sourcing fuel internationally and managing its storage domestically. The switch to a new, more robust, provider of

warehousing services began this year, but before this change could be implemented some ACTs were pilfered. Interim measures were implemented to address the situation. Meanwhile, the project continued with the switch to a new provider while simultaneously proceeding with the development and implementation of warning systems, both to prevent leakage and identify it as early as possible.

Improving Arrival of Processing Goods In-Country

Clearing project-procured commodities through customs remains a challenge in certain countries. In Nigeria, challenges with identifying and contracting with clearing agents has slowed the overall procurement process of the much-needed commodities. Challenges have also become apparent in DRC, where a lengthy clearance procedures leaves commodities open to pilferage while awaiting transfer to their final destination. A recent assistance visit to DRC helped to elucidate the process so that commodities can be better secured while clearance procedures are followed. However, at this time, there does not appear to be an immediate solution as to how the process could be shortened.

Some countries have experienced improvements. In Mozambique, where clearance has previously taken approximately 3 months, the project is now experiencing a lead time of closer to 6 weeks—a vast improvement with significant impact. Improvements have also been seen in Angola in the past year. In Angola, PMI requires that the transfer of custody of PMI commodities to the Angolan MOH only occur at the provincial level. As such, Angola continues to be one of the more difficult places for freight forwarding. The project continues to obtain exemptions from several Angolan government agencies, which allows consignments to bypass the customs warehouse and be delivered directly to the recipient. This process has been streamlined, and the amount of days required to coordinate this has been significantly reduced.

Appendices

Appendix A

Commodities Procured October 1, 2011–September 30, 2012

Country	PO Date	Sub Category	Total Value	Total Quantity
Angola	1-11-11	Coartem	\$2,426,430.00	2,988,660
Angola	16-02-12	Lab Supplies	\$169,384.79	Various
Angola	28-03-12	RDTs	\$603,505.00	2,092,150
Angola	25-04-12	LLINs	\$1,257,579.00	423,000
Angola	5-06-12	Coartem	\$611,010.00	407,340
Angola	26-08-12	Coartem	\$202,560.00	204,000
Angola	21-09-12	Coartem	\$4,037,022.30	3,829,800
Benin	17-11-11	Malaria Pharmaceuticals	\$38,107.00	Various
Benin	16-12-11	Coartem	\$1,279,969.80	1,058,010
Benin	21-05-12	RDTs	\$558,600.00	980,000
Benin	30-05-12	Malaria Pharmaceuticals	\$19,409.61	682,650
Benin	29-06-12	ALu Generic	\$479,551.20	351,180
Benin	29-06-12	Coartem	\$630,600.00	540,000
Benin	11-09-12	LLINs	\$1,727,880.00	510,000
Burkina Faso	28-10-11	Malaria Pharmaceuticals	\$422,602.50	Various
Burkina Faso	17-11-11	RDTs	\$522,000.00	900,000
Burkina Faso	28-02-12	Malaria Pharmaceuticals	\$360,750.00	Various
Burkina Faso	2-05-12	AS/AQ FDC	\$174,661.29	421,925
Burkina Faso	11-06-12	AS/AQ FDC	\$485,928.71	945,575
Burkina Faso	5-07-12	AS/AQ FDC	\$564,978.38	880,650
Burkina Faso	5-07-12	AS/AQ FDC	\$231,862.75	419,186
Burkina Faso	16-09-12	AS/AQ FDC	\$6,750.00	25,000
Burundi	28-02-12	RDTs	\$155,000.00	310,000

Country	PO Date	Sub Category	Total Value	Total Quantity
Burundi	2-03-12	LLINs	\$1,463,330.00	530,000
Burundi	14-06-12	AS/AQ FDC	\$187,443.70	542,100
Burundi	10-07-12	RDTs	\$125,000.00	250,000
Burundi	21-08-12	AS/AQ FDC	\$75,780.00	234,000
Burundi	6-09-12	AS/AQ FDC	\$243,828.00	243,828
Cambodia	20-06-12	LLINs	\$85,500.00	30,000
Cambodia	20-06-12	RDTs	\$6,000.00	10,000
Congo, Democratic Republic of	19-12-11	RDTs	\$2,380,000.00	3,500,000
Congo, Democratic Republic of	13-06-12	AS/AQ FDC	\$1,725,516.00	680,000
Congo, Democratic Republic of	9-08-12	AS/AQ FDC	\$675,217.58	1,261,725
Congo, Democratic Republic of	17-09-12	AS/AQ FDC	\$1,350,346.42	2,523,275
Ethiopia	12-01-12	Lab Supplies	\$51,982.50	Various
Ghana	7-12-11	Lab Supplies	\$303,340.21	Various
Ghana	21-03-12	RDTs	\$1,859,280.00	3,048,000
Ghana	13-04-12	LLINs	\$4,710,400.00	1,600,000
Ghana	10-08-12	Coartem	\$205,747.20	437,760
Ghana	6-09-12	Coartem	\$386,601.90	1,044,870
Guinea	10-08-12	AS/AQ FDC	\$392,298.32	754,750
Guinea	15-08-12	RDTs	\$68,000.00	100,000
Guinea	11-09-12	LLINs	\$3,656,000.00	800,000
Guinea	27-09-12	Malaria Pharmaceuticals	\$3,400.00	10,000

Country	PO Date	Sub Category	Total Value	Total Quantity
Guinea	27-09-12	Malaria Pharmaceuticals	\$7,897.50	325,000
Kenya	5-01-12	RDTs	\$1,064,523.20	1,745,120
Kenya	1-05-12	LLINs	\$1,045,170.00	294,000
Kenya	2-05-12	Coartem	\$884,267.40	1,386,600
Kenya	11-06-12	Coartem	\$43,999.20	40,740
Kenya	12-06-12	ALu Generic	\$2,035,940.70	1,332,210
Kenya	14-06-12	LLINs	\$3,573,468.23	1,005,195
Kenya	25-06-12	ALu Generic	\$2,035,940.70	1,332,210
Kenya	28-06-12	Coartem	\$790,196.40	1,386,600
Kenya	9-08-12	ALu Generic	\$4,279,615.20	2,796,180
Kenya	27-08-12	Coartem	\$1,155,721.20	1,304,430
Laos	20-06-12	LLINs	\$100,500.77	35,573
Liberia	19-01-12	AS/AQ FDC	\$218,558.02	447,800
Liberia	9-02-12	AS/AQ FDC	\$792,955.30	1,788,750
Liberia	17-05-12	RDTs	\$1,036,000.00	1,400,000
Liberia	18-06-12	RDTs	\$370,000.00	500,000
Liberia	3-07-12	AS/AQ FDC	\$6,750.00	25,000
Liberia	3-07-12	Malaria Pharmaceuticals	\$69,305.60	Various
Liberia	3-07-12	Malaria Pharmaceuticals	\$5,704.93	239,000
Liberia	26-08-12	AS/AQ FDC	\$59,996.44	113,975
Liberia	20-09-12	Malaria Pharmaceuticals	\$477,401.88	Various
Liberia	20-09-12	Malaria Pharmaceuticals	\$5,745.56	239,000

Country	PO Date	Sub Category	Total Value	Total Quantity
Madagascar	5-07-12	AS/AQ FDC	\$131,916.80	400,000
Madagascar	31-05-12	LLINs	\$7,054,080.00	2,112,000
Madagascar	28-10-11	Malaria Pharmaceuticals	\$182,557.23	Various
Madagascar	23-04-12	RDTs	\$544,600.00	778,000
Malawi	28-10-11	LLINs	\$2,667,168.00	1,447,860
Malawi	2-12-11	ALu Generic	\$2,019,000.00	3,800,435
Malawi	2-12-11	Coartem	\$1,781,435.40	2,523,150
Malawi	31-01-12	RDTs	\$59,337.50	118,675
Malawi	29-06-12	Coartem	\$2,400,426.60	2,926,560
Malawi	21-03-12	RDTs	\$2,696,508.27	6,631,082
Malawi	3-05-12	LLINs	\$1,816,534.27	555,685
Malawi	29-06-12	Coartem	\$2,118,039.00	3,856,104
Malawi	17-08-12	Coartem	\$40,026.00	28,590
Malawi	21-03-12	Rapid Diagnostic Test Kit	\$924,000.00	1,848,000
Mali	3-10-11	Coartem	\$774,039.00	850,050
Mali	24-10-11	Malaria Pharmaceuticals	\$42,803.91	1,593,000
Mali	24-10-11	RDTs	\$365,000.00	600,000
Mali	17-11-11	Malaria Pharmaceuticals	\$68,047.02	65
Mali	22-03-12	RDTs	\$241,000.00	400,000
Mali	20-06-12	LLINs	\$2,026,800.00	600,000
Mali	29-06-12	ALu Generic	\$1,223,495.70	1,549,980
Mozambique	24-10-11	RDTs	\$460,000.00	1,000,000
Mozambique	13-07-12	Coartem	\$4,378,972.80	4,393,200

Country	PO Date	Sub Category	Total Value	Total Quantity
Mozambique	25-07-12	LLINs	\$4,287,600.00	1,200,000
Mozambique	16-08-12	ALu Generic	\$2,414,853.00	3,450,600
Mozambique	21-08-12	Malaria Pharmaceuticals	\$250,000.00	6,000,000
Mozambique	30-08-12	Coartem	\$537,600.00	384,000
Myanmar	19-06-12	RDTs	\$107,325.00	238,500
Myanmar	5-07-12	ALu Generic	\$92,366.10	68,070
Myanmar	6-08-12	Malaria Pharmaceuticals	\$10,644.99	Various
Myanmar	27-08-12	LLINs	\$848,120.00	233,000
Nigeria	22-12-11	LLINs	\$1,010,160.00	315,675
Nigeria	3-05-12	AS/AQ FDC	\$420,200.85	676,775
Nigeria	14-05-12	ALu Generic	\$687,351.00	677,100
Nigeria	24-05-12	RDTs	\$542,500.00	1,750,000
Nigeria	4-06-12	LLINs	\$320,000.00	100,000
Nigeria	18-06-12	Malaria Pharmaceuticals	\$19,420.00	10,000
Nigeria	18-06-12	RDTs	\$155,000.00	500,000
Nigeria	28-06-12	AS/AQ FDC	\$635,168.00	1,000,000
Nigeria	28-06-12	Coartem	\$1,004,962.20	949,830
Nigeria	23-07-12	LLINs	\$3,048,700.00	1,000,000
Nigeria	25-07-12	AS/AQ FDC	\$134,525.00	250,000
Nigeria	6-08-12	LLINs	\$2,880,000.00	900,000
Nigeria	7-08-12	Coartem	\$892,874.10	741,150
Nigeria	24-08-12	LLINs	\$3,150,000.00	1,000,000
Nigeria	30-08-12	Coartem	\$1,590,903.00	1,646,280
Nigeria	11-09-12	AS/AQ FDC	\$757,562.00	1,260,400

Country	PO Date	Sub Category	Total Value	Total Quantity
Nigeria	18-09-12	Malaria Pharmaceuticals	\$99,600.00	99,600
Nigeria	20-09-12	RDTs	\$135,000.00	135,000
Rwanda	11-11-11	Malaria Pharmaceuticals	\$63,192.70	Various
Rwanda	19-12-11	RDTs	\$475,009.50	500,010
Rwanda	1-03-12	Malaria Pharmaceuticals	\$186,288.00	Various
Rwanda	23-03-12	LLINs	\$3,722,266.00	857,300
Rwanda	27-07-12	Malaria Pharmaceuticals	\$71,200.00	40,000
Rwanda	30-08-12	LLINs	\$589,984.00	143,200
Senegal	18-11-11	RDTs	\$406,000.00	700,000
Senegal	3-05-12	Coartem	\$42,300.00	60,000
Senegal	9-05-12	AS/AQ FDC	\$91,326.90	189,425
Senegal	6-07-12	AS/AQ FDC	\$60,000.10	105,575
Senegal	30-08-12	LLINs	\$1,495,000.00	1,495,000
South Sudan	20-06-12	AS/AQ FDC	\$530,414.00	925,000
South Sudan	7-12-11	RDTs	\$77,000.00	140,000
Tanzania	19-12-11	Coartem	\$1,593,458.41	1,492,080
Tanzania	28-02-12	Coartem	\$482,842.56	594,270
Tanzania	2-03-12	RDTs	\$170,000.00	212,500
Tanzania	25-05-12	Malaria Pharmaceuticals	\$2,013.90	Various
Tanzania	6-06-12	Coartem	\$200,736.00	147,600
Tanzania	20-06-12	RDTs	\$238,525.00	340,750
Tanzania	22-06-12	Coartem	\$3,334,681.20	3,782,100

Country	PO Date	Sub Category	Total Value	Total Quantity
Tanzania	28-06-12	Malaria Pharmaceuticals	\$76,880.00	2,480,000
Uganda	2-11-11	RDTs	\$1,154,160.00	2,061,000
Uganda	8-03-12	LLINs	\$2,041,000.00	650,000
Uganda	11-06-12	LLINs	\$1,670,900.00	550,000
Uganda	13-07-12	Coartem	\$89,517.00	83,580
Uganda	16-08-12	Coartem	\$305,978.40	243,600
Uganda	11-09-12	Coartem	\$421,555.20	421,555
Zambia	18-10-11	Coartem	\$1,801,296.00	1,456,200
Zambia	14-11-11	LLINs	\$2,598,109.00	833,000
Zambia	7-12-11	ALu Generic	\$1,287,616.80	1,240,020
Zambia	21-12-11	RDTs	\$340,000.00	1,000,000
Zambia	3-05-12	Coartem	\$608,414.40	345,690
Zambia	14-05-12	ALu Generic	\$567,000.00	1,350,000
Zambia	22-05-12	Coartem	\$373,816.80	445,020
Zambia	13-06-12	Coartem	\$1,326,674.98	1,189,620
Zambia	3-07-12	ALu Generic	\$687,525.00	550,020
Zambia	20-07-12	RDTs	\$338,000.00	1,056,250
Zambia	14-08-12	RDTs	\$320,000.00	1,000,000
Zambia	30-08-12	Malaria Pharmaceuticals	\$2,051,720.00	Various
Zambia	11-09-12	Coartem	\$141,965.06	327,570
Zimbabwe	4-01-12	ALu Generic	\$515,251.20	498,960
Zimbabwe	21-02-12	Coartem	\$185,040.00	190,800
Zimbabwe	28-02-12	RDTs	\$745,524.00	1,433,700

Country	PO Date	Sub Category	Total Value	Total Quantity
Zimbabwe	27-03-12	LLINs	\$2,353,550.00	457,000
Zimbabwe	3-05-12	Coartem	\$345,672.60	279,390
Zimbabwe	21-05-12	RDTs	\$86,320.00	166,000
Zimbabwe	2-07-12	Malaria Pharmaceuticals	\$28,875.00	660,000

Appendix B

DFID-Funded Procurement

Item Description	Sub Category	PO#	RO#
Artemether/Lumefantrine, 20mg/120mg tablets, 6x1 Blister pack, 30 treatments	ALu Generic	PO-PUP-828	3142
Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	Coartem	PO-PUP-656	2825
Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	Coartem	PO-PUP-656	2825
Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Coartem	PO-PUP-656	2825
Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Coartem	PO-PUP-871	3418
Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x2 Blister Pack, 30 Treatments	Coartem	PO-PUP-871	3418
Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	Coartem	PO-PUP-871	3418
Artemether/Lumefantrine 20mg/120mg, tablets, 6x4 Blister Pack, 30 treatments	Coartem	PO-PUP-871	3418
Artemether/Lumefantrine, 20mg/120mg tablets, 6x3 Blister pack, 30 treatments	Coartem	N/A	RO3449 - stock
Artemether/Lumefantrine, 20mg/120mg tablets, 6x4 Blister pack, 30 treatments	Coartem	N/A	RO3449 - stock
Artemether/Lumefantrine, 20mg/120mg tablets, 6x1 Blister pack, 30 treatments	Coartem	N/A	RO3450 - stock
Artemether/Lumefantrine, 20mg/120mg tablets, 6x2 Blister pack, 30 treatments	Coartem	N/A	RO3450 - stock
Artemether/Lumefantrine 20mg/120mg, tablets, 6x3 Blister Pack, 30 treatments	Coartem	N/A	RO3450 - stock
Artemether/Lumefantrine, 20mg/120mg tablets, 6x3 Blister pack, 30 treatments	ALu Generic	PO-PUP-932	3502
Artemether/Lumefantrine 20mg/120mg, Pill, Dispersible, 6x1 Blister Pack, 30 Treatments	Coartem	PO-PUP-1072	3655
Cefuroxime 250 mg tabs, blisters	Malaria Pharmaceuticals	PO-PUP-1041	3681
Phenoxymethylpenicillin 250mg tabs	Malaria Pharmaceuticals	PO-PUP-1041	3681
Procaine Benzylpenicillin 3mu powder for injection	Malaria Pharmaceuticals	PO-PUP-1041	3681
Oral Rehydration Salts 20.5g/l POS sachet	Malaria Pharmaceuticals	PO-PUP-1041	3681

Erythromycin 250mg (as Stearate) tabs	Malaria Pharmaceuticals	PO-PUP-1041	3681
Ciprofloxacin 2mg/ml vial	Malaria Pharmaceuticals	PO-PUP-1041	3681
Ciprofloxacin 250mg tabs	Malaria Pharmaceuticals	PO-PUP-1041	3681
Amoxicillin 250mg, caps	Malaria Pharmaceuticals	PO-PUP-1041	3681
Doxycycline 100 mg (as hyclate), caps	Malaria Pharmaceuticals	PO-PUP-1042	3682
Benzylpenicillin 5mu/vial	Malaria Pharmaceuticals	PO-PUP-1042	3682

PO Date	Rate	Quantity (Packs)	Commodity Value	Delivery Status
14-May-12	12.6	45000	\$567,000.00	Delivered
18-Oct-11	45	17280	\$777,600.00	Delivered
18-Oct-11	34.8	26400	\$918,720.00	Delivered
18-Oct-11	21.6	4860	\$104,976.00	Delivered
13-Jun-12	9.6	6750	\$64,800.00	Delivered
13-Jun-12	19.2	3255	\$62,496.00	Delivered
13-Jun-12	27.84	1776	\$49,443.84	Delivered
13-Jun-12	36	5024	\$180,864.00	Delivered
25-Jun-12	37.84	837	\$25,110.00	Delivered
25-Jun-12	36	5008	\$180,288.00	Delivered
25-Jun-12	9.6	6750	\$64,800.00	Delivered
25-Jun-12	19.2	3255	\$62,496.00	Delivered
25-Jun-12	27.84	939	\$26,141.76	Delivered
3-Jul-12	37.5	18334	\$687,525.00	Expected arrival November 2012
11-Sep-12	12.6	10757	\$135,538.20	Order placed for December 2012 availability
30-Aug-12	2.24	22000	\$49,280.00	Order placed for January 2013 availability
30-Aug-12	12.5	6200	\$77,500.00	Order placed for January 2013 availability
30-Aug-12	2.88	5500	\$15,840.00	Order placed for January 2013 availability
30-Aug-12	8.89	8300	\$73,787.00	Order placed for January 2013 availability

30-Aug-12	30.37	30000	\$911,100.00	Order placed for January 2013 availability
30-Aug-12	0.36	42000	\$15,120.00	Order placed for January 2013 availability
30-Aug-12	1.46	60000	\$87,600.00	Order placed for January 2013 availability
30-Aug-12	13.74	50000	\$687,000.00	Order placed for January 2013 availability
30-Aug-12	12.29	6700	\$82,343.00	Order placed for January 2013 availability
30-Aug-12	7.45	7000	\$52,150.00	Order placed for January 2013 availability

Appendix C

WHO/FIND Lot Testing Report

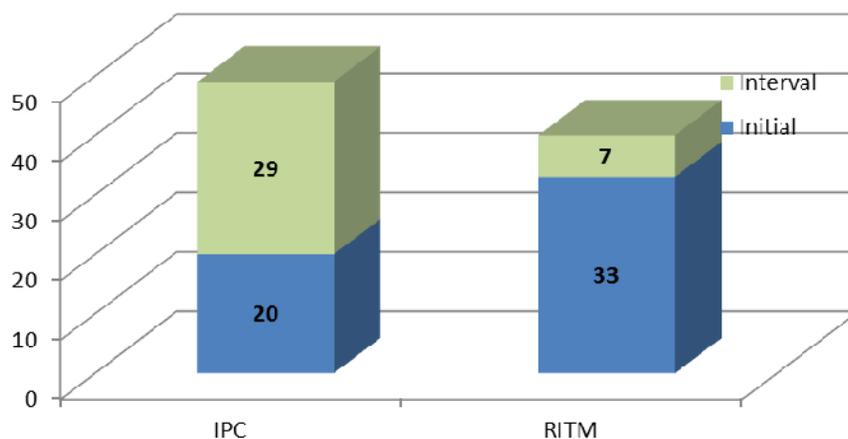


Document type: report	LOT TESTING REPORT
Confidentiality: confidential	

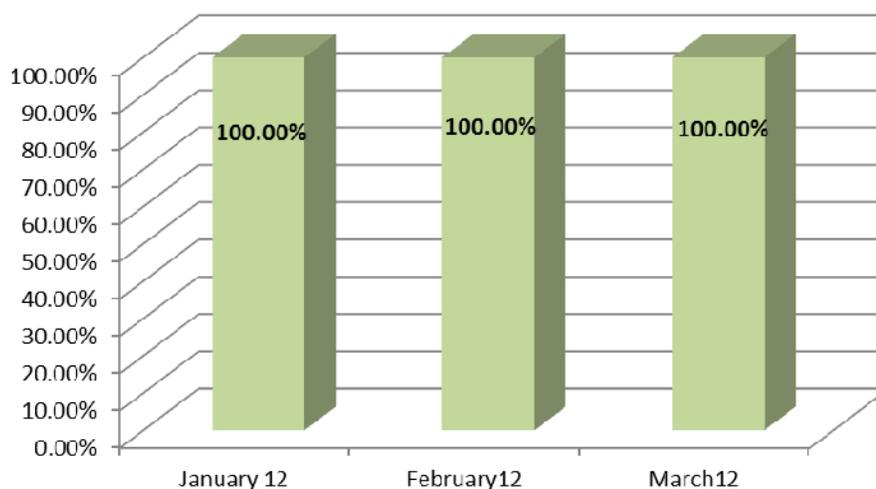
Task order number: T07	Consignee of the report: JOHN SNOW, INC
Activity Manager: Lisa Har^	Project number: 13250.0001.0001_25MAR12
IQC subcontract dated October 20 th , 2010 in accordance with Prime Agreement n°GPO-I-00-06-00007-00 between USAID and JSI.	
Author of the report: FIND (Foundation For Innovative New Diagnostics)	
Description of the PO: Continue to provide public sector malaria RDT quality assurance lot-testing from two reference laboratories, at the Research Institute for Tropical Medicine (the Philippines) and the Pasteur Institute (Cambodia), as of January 26 th , 2012 to January 25 th , 2013. This agreement covers USD 300,000.	
Dates covered by the PO: January 26 th , 2012 to January 25 th , 2013	
Period of report: January 26 th , 2012 to March 25 th , 2012	
Date of report: March 25 th , 2012	

<p>1. Lot testing summary per site from January 26th, 2012 to March 25th, 2012</p> <ul style="list-style-type: none">• 53 RDT lots submitted to both testing laboratories for routine initial testing, including 24 from PMI projects.• 89 RDT lots processed at both testing laboratories for routine initial and interval testing, including 38 from PMI.• 4 “deferred” reports were issued; the primary results showed an absence of positive line on <i>Pv</i> at 200p/μl, the RDTs were deferred to the other testing laboratory (RITM - Philippines) for confirmatory testing. <p>45% of the routine lots (initial testing) tested were directly requested by JSI.</p> <p>In total, 43% of the lots tested for initial and interval (routine) were directly requested by JSI.</p>
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Total N° of routine RDT lots tested from January 26th, 2012 until March 25th, 2012 per testing laboratories



Percentage of Pass RDT lots (routine / initial testing)



N.B. Since an RDT lot is counted as a Pass or Fail the year it was received by the testing laboratory for Quality Control testing, the Pass rate may vary if a failure is detected during the interval testing. e.g. 1 RDT lot failed during the 18 month testing in January 2011, since it was received in 2008, it is counted as a failed RDT lot in 2008 (the year when it was received) and not in 2011.

2. Areas for improvement

A workshop was held at IPC attended by Chona Mae Daga (RITM), Sina Nhem & Man Somnang (IPC) and Nora Champouillon (FIND) in order to address some problems in reporting that have arisen with the new database. This was the first live training with representatives from both testing laboratories since the implementation of the Malaria lot testing database. The workshop covered the following topics:

- Data harmonization (IPC/RITM/FIND)
- Any issues encountered with the database
- Fixing manual data entry errors

- Fixing errors that occurred when the data was imported into the database
- Re-training on reading and interpretation of results
- New harmonized procedure for releasing reports to requesters, with standardized relevant comments
- Harmonization of the comments sent to requesters
- Stock management
- Any others issue related to the smooth running of the programme
- Meeting with WHO Cambodia to discuss issues with DHL wrt the payment of high charges
- Address issues/comments from the testing labs

3. Harmonization

All the comments must be now standardized. Useful list of problems encountered during testing was reviewed during a full day (theoretical part with a review of each comment to make sure everyone agrees upon the interpretation of the comments and a practical part to agree upon the comments to include in a trial report).



4. Proficiency panels

Selection of the RDTs to carry out the quarterly EQA proficiency testing using the interactive product testing tool for selection of the RDTs. Pv pLDH RDTs were selected. Two batches of the same RDT lots were ordered and one was sent to the Hospital For Tropical Disease to go through a degradation process. After an initial screening of samples, RDTs are placed in an incubator at 60°C and tested on a regular basis until complete degradation (no positive line).

5. Sample collection preparation

RITM Pre-visit of the site by in Palawan and request to order RDTs and supplies. Jenny and Raine from RITM went to Palawan where they have identified a new collection site, although it might take some time to get all the authorizations.

6. Importation issues

Serious importation issues were encountered in Philippines. All shipments transit via WPRO who send them to RITM. During this period, all shipments were systematically stuck by customs waiting for customs clearance from the testing site.

Lot-testing stopped at RITM during this period and all the requests were processed by IPC.

New shipping instructions were given by WPRO and trial shipments were carried out accordingly.

Since then, no serious delay was encountered.

These new shipping instructions are now available in our website

7. Requesters

More than 40% of the requests came from RDT manufacturers, about a half (49.8%) from Government Aid or procurement agencies.

Most manufacturer requests arise from pre-procurement lot-testing requests from procurement agencies. This is now the common mode of lot-testing for USAID. In such cases, FIND is unable to track the intended user for the lot unless the user makes prior arrangement with the requestor (the manufacturer) to be included in the lot testing request form.

Among the procurement agencies, the major requestor continues to be US PMI. However, an increase in requests from other country programs reflects the recommendations of the Global Fund that lot-testing be performed.

A small number of requests for non-routine testing are received from field programmes to test RDTs withdrawn from the field, and very few from manufacturers requesting to ensure products newly modified are of appropriate sensitivity .

Requesters having submitted RDTs for routine and non routine lot testing January 2011 until September 2011	% of RDT lots submitted
Government Aid and Procurement Agencies (non endemic countries)	49.8%
Non-Governmental Organizations (NGOs) and Research Institutions	3.7%
National Malaria Control Programmes / WHO / UNICEF	3.2%
RDT manufacturers (for routine pre-shipment and non-routine testing)	43.3%

8. Contract renewal

A multi-year contract with IPC and RITM has been signed for 4 further years with a special termination clause with a 3 months' notice due to uncertain further funding for 2012. HTD contract was also renewed-

9. Future operation

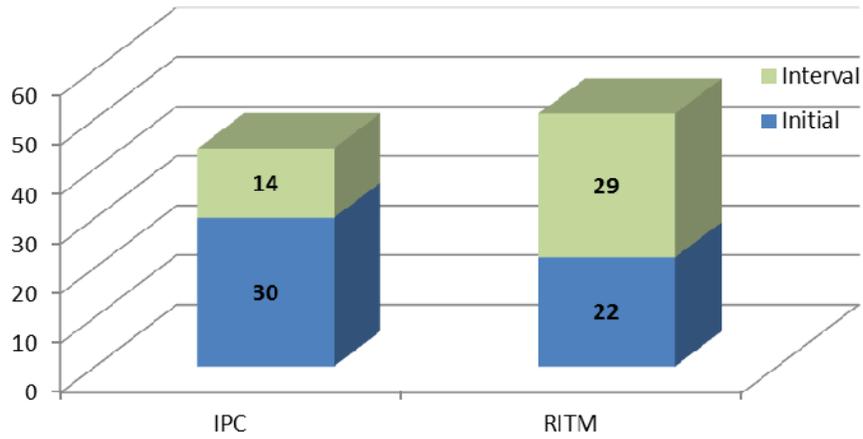
FIND has submitted a grant application to UNITAID, and is looking at other options to determine whether lot-testing can be extended beyond the current period of USAID funding, as well as still actively working with WHO to address this situation.

Document type: report	LOT TESTING REPORT
Confidentiality: confidential	

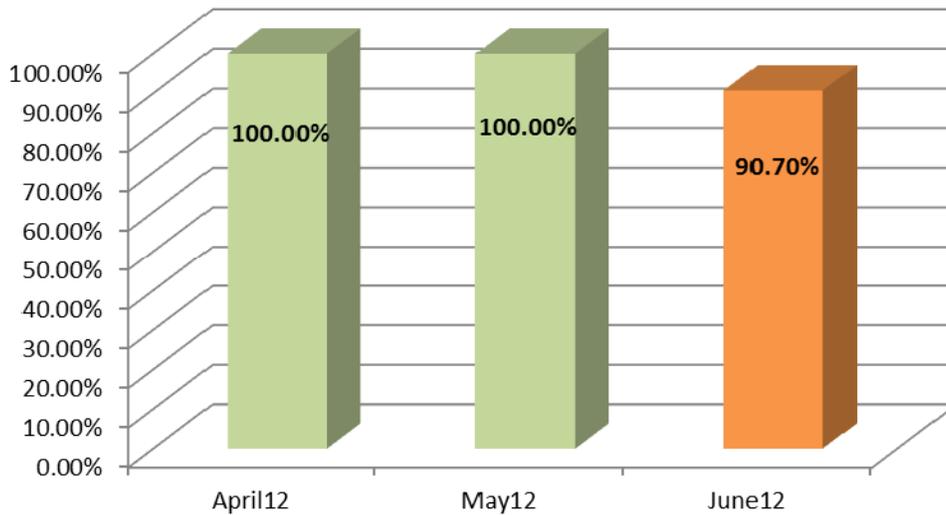
Task order number: T07	Consignee of the report: JOHN SNOW, INC
Activity Manager: Lisa Hare	Project number: 13250.0001.0001_25JUN12
<p>IQC subcontract dated October 20th, 2010 in accordance with Prime Agreement n°GPO-I-00-06-00007-00 between USAID and JSI.</p> <p>Author of the report: FIND (Foundation For Innovative New Diagnostics)</p> <p>Description of the PO: Continue to provide public sector malaria RDT quality assurance lot-testing from two reference laboratories, at the Research Institute for Tropical Medicine (the Philippines) and the Pasteur Institute (Cambodia), as of January 26th, 2012 to January 25th, 2013. This agreement covers USD 300,000.</p> <p>Dates covered by the PO: January 26th, 2012 to January 25th, 2013</p> <p>Period of report: March 26th, 2012 to June 25th, 2012</p> <p>Date of report: June 25th, 2012</p>	

<p>1. Lot testing summary per site from March 26th, 2012 to June 25th, 2012</p> <ul style="list-style-type: none"> • 191 RDT lots submitted to both testing laboratories for routine initial testing, including 111 from PMI projects. • 220 RDT lots processed at both testing laboratories for routine initial and interval testing, including 121 from PMI. • 4 failures occurred during this period, all on Pv at 200 parasites/μl; the primary results showed an absence of positive line on Pv at 200p/μl, the RDTs were deferred to the other testing laboratory (RITM - Philippines) who confirmed "fail" results on all RDT lots. These RDT lots were requested by WHO Papua New Guinea. <p>A few weeks later, these same lots were sent to IPC for retesting using 10μl of blood instead of 5μl as per the manufacturer's request. The results were good and WHO asked the programme to send a letter in order to recommend these lots who previously failed with the lower blood volume.</p> <p>This request was shifted to WHO/WPRO so that they could address this directly to WHO PNG.</p> <p>58% of the routine lots (initial testing) tested were directly requested by JSI.</p> <p>In total, 55% of the lots tested for initial and interval (routine) were directly requested by JSI.</p>

Total N° of routine RDT lots tested from April 26th, 2012 until June 25th, 2012 per testing laboratories



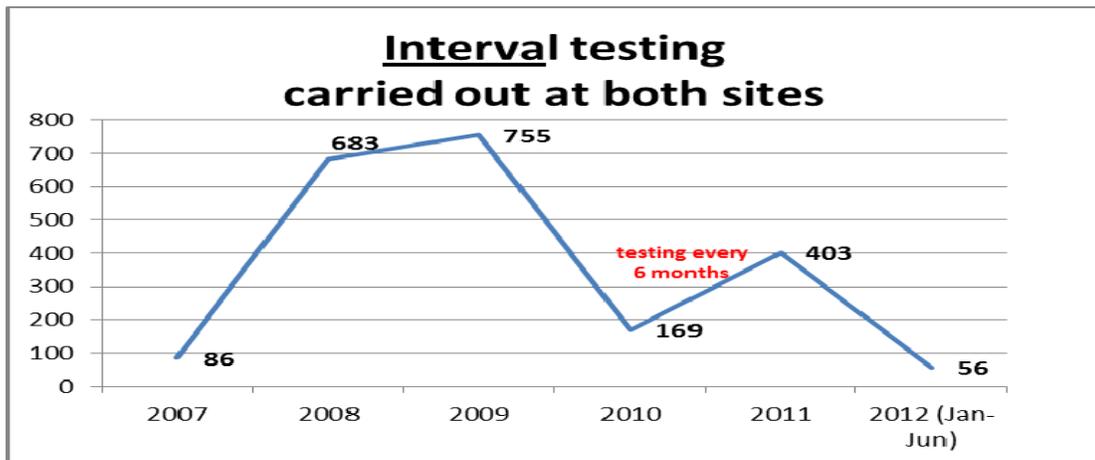
Percentage of Pass RDT lots (routine / initial testing)



N.B. Since an RDT lot is counted as a Pass or Fail the year it was received by the testing laboratory for Quality Control testing, the Pass rate may vary if a failure is detected during the interval testing. e.g. 1 RDT lot failed during the 18 month testing in January 2011, since it was received in 2008, it is counted as a failed RDT lot in 2008 (the year when it was received) and not in 2011.

2. Website results

Manufacturer	Catalog No	Product Names	Number of lots tested	Number of lots having passed	Number of lots having failed	Pass rate (%)
Access Bio, Inc.	G0131	CareStart Malaria HRP2/pLDH (Pv/PAN) COMBO	4	4		
Access Bio, Inc.	G0161	CareStart Malaria HRP2(Pf)	1	1		
Access Bio, Inc.	G0141	Carestart™ Malaria HRP2 (Pf)	42	42		100.00%
CTK Biotech, Inc.	R0113C	Malaria Pf/Pan Ag Rapid Test, Cs	1	1		
ICT Diagnostics	ML02	ICT Malaria Combo Cassette Test	29	25	4	86.21%
OBS (Orchid Biomedical System)	30301025	Paracheck Pf DEVICE	102	102		100.00%
Premier Medical Corporation Ltd.	I13FRC25	First Response Malaria Ag. P. falciparum HRP2 Card Test	10	10		100.00%
Premier Medical Corporation Ltd.	I13FRC30	First Response Antigen (HRP2) detection Card Test	3	3		
Premier Medical Corporation Ltd.	I16FRC25/30	First Response Malaria Ag. pLDH/HRP2 Combo Card Test	19	19		100.00%
Standard Diagnostics, Inc.	05FK50	SD Bioline Malaria Ag Pf	18	18		100.00%
Standard Diagnostics, Inc.	05FK60	SD BIOLINE Malaria P. f/Pan rapid test	38	38		100.00%
Standard Diagnostics, Inc.	05FK63	SD Bioline Malaria P. f/Pan POCT Rapid Test	5	5		100.00%
Standard Diagnostics, Inc.	05FK64	SD Malaria Ag Pf/Pan POCT combo	1	1		100.00%
Standard Diagnostics, Inc.	05FK80	SD BIOLINE Malaria Pf Pv rapid test	12	12		100.00%
Standard Diagnostics, Inc.	05FK85/86	SD Bioline Malaria Ag Pf/Pv	2	2		



N.B. After consultation with major users, a reduction in frequency of interval testing to one episode at 18 months after receipt has been decided during the May 2011 steering committee meeting. This change explains the strong decrease of interval testing carried out since 2011.

[http://www.finddiagnostics.org/programs/malaria-afs/malaria/rdt quality control/lot testing/malaria rdt lot testing results/](http://www.finddiagnostics.org/programs/malaria-afs/malaria/rdt%20quality%20control/lot%20testing/malaria%20rdt%20lot%20testing%20results/)

3. Proficiency panels preparation

Pv pLDH RDTs were heat stressed at HTD (London) at 60°C according to the current SOP. Incubation started in April; at the time of this report, RDTs were still not sufficiently degraded, hence proficiency testing was delayed.

4. Sample collections

Annual collection and preparation of blood quality control (QC) panels took place in the Philippines on May 7-11th. As usual, malaria parasites were obtained from infected individuals to replenish the specimen bank used for the malaria RDT lot-testing and product testing. The exercise was coordinated by an RITM team. The main challenge for RITM was to meet their Pv sample needs due to failure to collect samples of adequate parasitemia during previous sample collection.

Sina Nhem from IPC (covered by a consultancy contract) joined the RITM team to help during the collection and to review lot testing procedures with reference to current practice at IPC and to share RITM in-house systems for harmonization purposes.

Sites visited:

Brgy. Narra-Narra, Tarusan, Brgy. Kulandanum, Rural Health Unit of Bataraza, RJL, Rio Tuba Nickel Foundation Hospital

Used Care Start pLDH/HRP2 (Pf/PAN)

Total number of patients screened for malaria: 187

Total number of malaria positive patients: 21

Number of QC samples prepared: 5 (1 Pv, 4 Pf)

Number of aliquot:

1800 aliquots for Pf at 2000p/µl

1392 aliquots for Pf at 200p/µl

250 aliquots for Pv at 2000p/µl

369 aliquots for Pv at 200p/µl

Problems encountered during the blood sample collection, preparation and dilution of QC samples:

Most of them are children under 7 years old.

The number malaria cases is decreasing .

Some RDTs are positive but diagnostic by microscopy is negative.

The parasitemia level is not in the criteria.

Recommendations

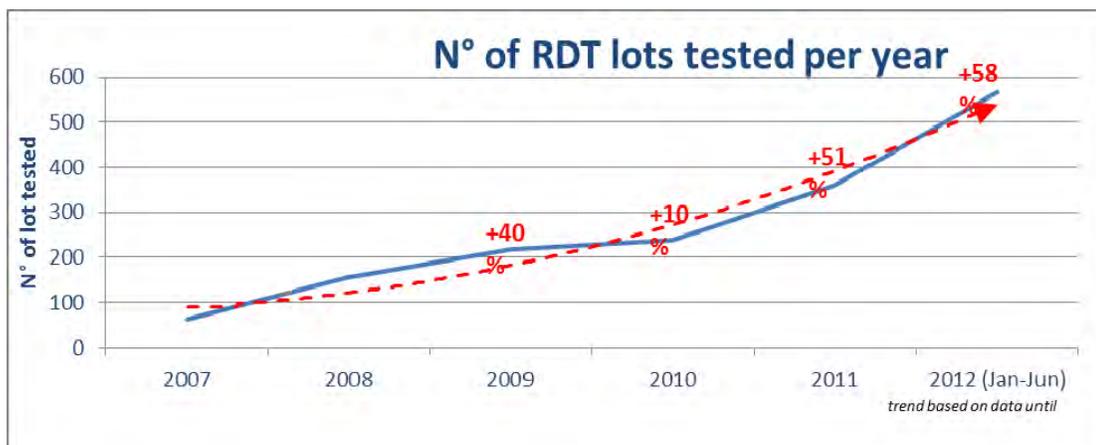
To select cases at the hospital level in order to crosscheck results by RDT screening and microscopy since all positive cases from the field detected by RDT were out of range (criteria). However, 5 samples were selected from the health facility level. It highlighted the difficulty to find malaria patients from the field within the criteria.

To extend the period in order to access more cases (3 weeks)

5. Equipment

IPC received a new deep freezer which allowed them to store the samples that were temporarily stored into a freezer dedicated to another project.

6. Workload issues



At the end of June, the trend showed a considerable increase (+58%).

7. Requesters

More than 72% of the requests came from Government Aid and Procurement Agencies, and only 15 % from RDT manufacturers and 12% from NMCPs, WHO and UNOPS.

Among the procurement agencies, the major requestor continues to be US PMI. However, an increase in requests from other country programs reflects the recommendations of the Global Fund that lot-testing are performed.

A small number of requests for non-routine testing are received from field programmes to test RDTs withdrawn from the field, protocol of testing were adapted in order to be able to provide results with the very limited number of RDT available per lot.

Requesters having submitted RDTs for routine and non routine lot testing January 2011 until September 2011	% of RDT lots submitted
Government Aid and Procurement Agencies (non endemic countries)	72%
RDT manufacturers (primary requesters not specified)	15%
National Malaria Control Programmes / WHO / UNICEF	12%
Non-Governmental Organizations (NGOs) and Research Institutions	1%

8. Contract renewal

Both lot-testing laboratories (RITM and IPC) have contracts until end 2012, renewable for 4 more years. HTD contract was renewed during this quarter, for characterization of lot-testing samples.

9. Future operation

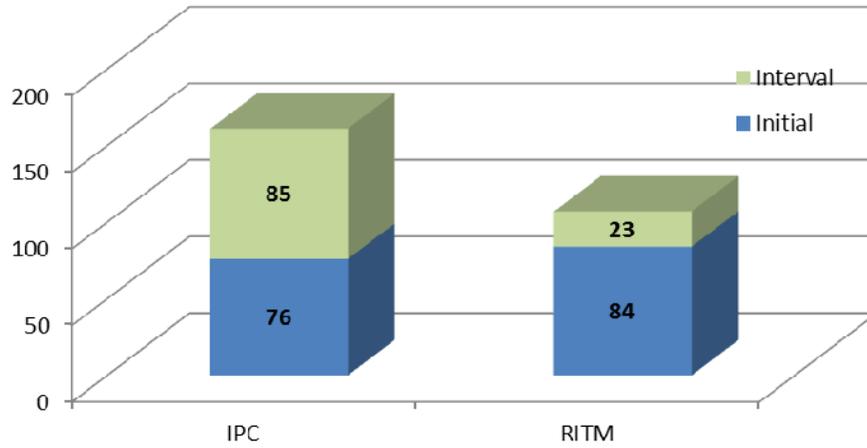
More funds are required to ensure future operation, and bank replenishment. FIND has submitted a grant application to UNITAID, and is looking at other options to determine whether lot-testing can be extended beyond the current period of USAID funding, as well as still actively working with WHO to address this situation.

Document type: report	LOT TESTING REPORT
Confidentiality: confidential	

Task order number: T07	Consignee of the report: JOHN SNOW, INC
Activity Manager: Lisa Harare	Project number: 13250.0001.0001_25SEP12
<p>IQC subcontract dated October 20th, 2010 in accordance with Prime Agreement n°GPO-I-00-06-00007-00 between USAID and JSI.</p> <p>Author of the report: FIND (Foundation For Innovative New Diagnostics)</p> <p>Description of the PO: Continue to provide public sector malaria RDT quality assurance lot-testing from two reference laboratories, at the Research Institute for Tropical Medicine (the Philippines) and the Pasteur Institute (Cambodia), as of January 26th, 2012 to January 25th, 2013. This agreement covers USD 300,000.</p> <p>Dates covered by the PO: January 26th, 2012 to January 25th, 2013</p> <p>Period of report: June 26th, 2012 to September 25th, 2012</p> <p>Date of report: September 25th, 2012</p>	

<p>1. Lot testing summary per site from June 26th, 2012 to September 25th, 2012</p> <ul style="list-style-type: none"> • 160 RDT lots submitted to both testing laboratories for routine initial testing, including 50 from JSI projects. • 268 RDT lots processed at both testing laboratories for routine initial and interval testing, including 114 from JSI. • No failure occurred during this period however recurrent comments related to very faint lines and incomplete clearing observed during testing were reported (see annex 1). <p>31% of the routine lots (initial testing) tested were directly requested by JSI.</p> <p>In total, 42% of the lots tested for initial and interval (routine) were directly requested by JSI.</p>

Total N° of routine RDT lots tested from July 26th, 2012 until September 25th, 2012 per testing laboratories



Percentage of Pass RDT lots (routine / initial testing)



N.B. Since an RDT lot is counted as a Pass or Fail the year it was received by the testing laboratory for Quality Control testing, the Pass rate may vary if a failure is detected during the interval testing. e.g. 1 RDT lot failed during the 18 month testing in January 2011, since it was received in 2008, it is counted as a failed RDT lot in 2008 (the year when it was received) and not in 2011.

2. Characterization

Shipments of the recent samples collected in Philippines were received at CDC & HTD for characterization.

3. Proficiency panels

Some proficiency panels meant for the next proficiency testing at IPC and RITM are incubating at HTD since April. Beginning of September, RDTs were still showing positive (but weaker) control & test lines. In order not to delay the QA proficiency testing, it was decided to go ahead with these RDTs. Reports received from both testing sites but results not yet released.

4. External Quality Assurance

Was carried out by IQLS (external EQA assessor) in order to assess both testing laboratories using a standardized Laboratory Assessment Tool (LAT), specifically designed for this purpose.

The aim is to assess the quality of the laboratories and of the lot Testing. It is also to identify problems and areas for improvement

A standardized Laboratory Assessment Tool (LAT) based on a scoring system is used as a support for the assessment giving General EQA indicator (GEI).

Decisions based on the GEI:

GEI>85% (PASS): continue LT

65%<GEI<85%: continue LT, but fulfill mandatory improvements and be re-assessed 3-6 months later

GEI<65% (FAIL): stop LT until mandatory improvements fulfilled and re-assessment passed.

The last results were good however at both sites; three comments arose wrt the release of the proficiency testing reports, slide crosschecking system and external slide crosschecking system for slides reading at both sites. These specific comments are to be fixed ASAP.

5. Steering committee

Took place in Geneva 27- 29 June

Main changes:

Risk management plan: HTD will act as a backup site, mainly to carry out confirmatory testing if any problem occurs with one of the testing site (i.e. importation pbs faced early this year, etc.)

Database: Needs-based specifications are being drafted in order to request several quotes for an online database. Budget issue.

New testing process: No more testing against QC samples at 2000p/μl except during confirmatory testing. Will be implemented upon release of the new version of the SOP in September

6. Website updates

Several updates of the website were carried out with updated forms and also a new section on non-routine testing due to frequent questions from requesters, especially countries and UNOPS Denmark.

“Non-routine testing is provided on a case-by-case basis, usually requested by countries who withdraw RDTs from the field to check quality. Such testing is incomplete, and the results obtained cannot be recommended by the programme since this process does not follow the lot-testing procedure. For each test the testing protocol is re-adapted based on the number of RDTs available (provided by the party requesting the test).”

7. Updates on the lot-testing reports

A note was also added at the end of the report in order to make sure such results are not considered as complete results.

Another note was also added at the end of the report to specify that the testing is performed using well characterized cryopreserved parasites samples following discussions with manufacturers.

8. Lot-testing comments /anomalies encountered during testing

Final document was released after comments from the testing sites and malaria steering committee.

(See annex 1)

9. Requesters

More than 48% of the requests came from RDT manufacturers, about a half (46%) from Government Aid or procurement agencies.

Most manufacturer requests arise from pre-procurement lot-testing requests from procurement agencies. This is now the common mode of lot-testing for USAID. In such cases, FIND is unable to track the intended user for the lot unless the user makes prior arrangement with the requestor (the manufacturer) to be included in the lot testing request form.

Among the procurement agencies, the major requestor continues to be US PMI. However, an increase in requests from other country programs reflects the recommendations of the Global Fund that lot-testing be performed.

A small number of requests for non-routine testing are received from field programmes to test RDTs withdrawn from the field, and very few from manufacturers requesting to ensure products newly modified are of appropriate sensitivity.

RDT manufacturers (for routine pre-shipment and non-routine testing)	
Government Aid and Procurement Agencies (non endemic countries)	
National Malaria Control Programmes / WHO / UNICEF	

10. Contract renewal

HTD contract was amended in order to reflect recent decision to have HTD acting as backup malaria lot-testing site in the frame of risk minimization.

11. Future operation

FIND has submitted a grant application to UNITAID, and is looking at other options to determine whether lot-testing can be extended beyond the current period of USAID funding, as well as still actively working with WHO to address this situation.

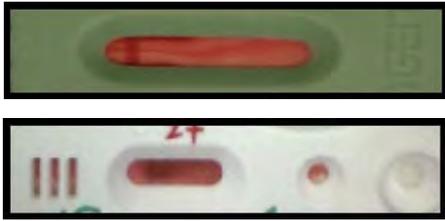
Annex 1

Anomalies encountered during testing

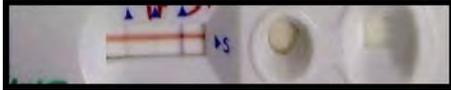
COMMENTS

A. STRIP

1. Red background (blood smear that could obscure test lines)



2. Incomplete clearing with streaking blood



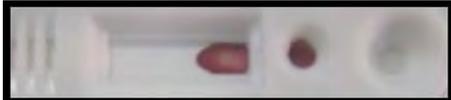
3. Incomplete clearing



Notes: Poor clearing of blood may obscure weak positive test lines, causing false negative results. Faint background staining is relatively common, and should only be commented on it if significant intensity similar to the pictures shown. However, an obscured test line should be reported as 'negative' in the main results table.

B. FAILURE TO FLOW

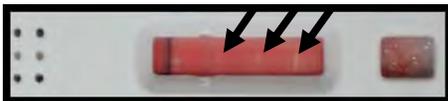
1. Blood and buffer did not run the length of the strip



Note: In such cases, the result would be noted as 'invalid', and the RDT repeated, as required in the

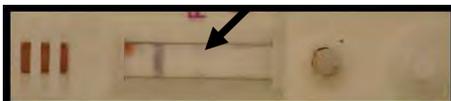
C. TEST LINES

1. Ghost test lines



Note: white lines on a stained background.

2. Patchy broken test line(s)



Note: report as positive if the test line is visible, even if incomplete.

3. Faint test line(s)



4. Diffuse test line(s)



Note: Test line wider than control, without clearly-defined edge.

D. RDT STRUCTURAL PROBLEMS

1. Strip misplaced in the cassette



Note: strip can only partially be seen in the results window.

2. Specimen pad not seen in sample window



Note: Normally, the colour of the conjugated antibody can be seen in this window (commonly purple,

E. BUFFER

1. Container does not puncture
2. Buffer does not flow freely
3. Remains pooled in buffer well on cass
4. Empty bottle
5. Insufficient volume
6. Discoloured buffer

F. TEST ENVELOPE OR PACKAGING

1. No easy pull tab on test
2. Not enough buffer provided
3. Missing essential test accessories
4. Damage sachet of desiccant
5. Wrong package insert or labelling

G. INSTRUCTIONS PROVIDED WITH PRODUCT

Instruction	Yes	No	Comment
Clear sample volume	<input type="checkbox"/>	<input type="checkbox"/>	
Clear buffer volume	<input type="checkbox"/>	<input type="checkbox"/>	
Clear reading time	<input type="checkbox"/>	<input type="checkbox"/>	
Test line interpretation	<input type="checkbox"/>	<input type="checkbox"/>	
Change from previous instructions of this product Specify:	<input type="checkbox"/>	<input type="checkbox"/>	

Appendix D

Preselected RDT Manufacturers

RDTs - PRE-SELECTED LIST

Manufacturer	Test Name	Target Antigen	Species	Comments
Access Bio	CareStart	HRP2	Pf	
	CareStart	HRP2/pLDH	Pf	
	CareStart Combo	HRP2/pLDH	Pf/PAN	PAN = All Plasmodium species
	CareStart Combo	HRP2/pLDH	Pf/Pv	
	CareStart Combo	HRP2/pLDH	Pf/VOM	VOM = Vivax, Ovale, Malariae,
Alere-Inverness	Binax Now	HRP2	Pf/PAN	
ICT	Malaria Pf Cassette	HRP2	Pf	
	Malaria Combo Cassette	HRP2/pLDH	Pf/PAN	
Orchid Biomedical	Paracheck Pf Device	HRP2	Pf	
Premier Medical	First Response Mal Ag	HRP2	Pf	
	First Response Mal Ag Combo	HRP2/pLDH	Pf/PAN	
	First Response Mal Ag PAN	pLDH	PAN	
Span Diagnostics	ParaHit Dipstick	HRP2	Pf	Dipstick only
Standard Diagnostics	Bioline Malaria Ag	HRP2	Pf	
	Bioline Malaria Ag Pf/PAN	HRP2/pLDH	Pf/PAN	
	Bioline Malaria Ag Pf/Pv	HRP2/pLDH	Pf/Pv	
	Bioline Malaria Ag Pv	pLDH	Pv	

Appendix E

Preselected LLIN Manufacturers

PRE-SELECTED LNS:

Brand	Manufacturer	Polyester	Polyethylene	Polypropylene	Denier	Pesticide	WHOPES Status
Interceptor ®	BASF	√			75 & 100	Alpha-cypermethrin	Interim
Netprotect ®	Bestnet		√		115	Deltamethrin	Interim
DuraNet ®	Clarke Mosquito Control		√		145+/- 5% (138 – 152)	Alpha-cypermethrin	Interim
Olyset ®	Sumitomo Chemical		√		150	Permethrin	Full
DawaPlus®2.0	Tana Netting	√			75 & 100	Deltamethrin	Interim
Permanet®2.0	Vestergaard Frandsen	√			75 & 100	Deltamethrin	Full
LifeNet ®	Bayer			√	100	Deltamethrin	Interim

Appendix F

World Health Organization (WHO)–Prequalified Manufacturers of Artemisinin- Based Combination Therapies (ACTs)

PRE-SELECTED PHARMACEUTICAL MANUFACTURERS/VENDORS

Manufacturer/Vendor	Brand	Comments
Novartis Pharma AG	Coartem® FDC , Coartem Dispersible® FDC	Artemether/Lumefantrine, Dispersible 20mg/120mg
Sanofi Aventis/Africasoins	Winthrop® FDC	Artesunate+Amodiaquine, four dosage presentations
UNICEF Supply Divn	Various products	
IDA Foundation	Various products	
Missionpharma A/S	Various products	
CIPLA Ltd	Generic ALu	Artemether/Lumefantrine, 20mg/120mg
IPCA Laboratories Ltd	Generic ALu	Artemether/Lumefantrine, 20mg/120mg

Appendix G

Objective 2 PMP Indicators Supplemental Information

Objective 2 PMP Indicators

Supplemental Information

INDICATOR 1: Facility Stockout Rate (the percentage of facilities that experienced a stockout of a product expected to be provided or issued by that site on the day of visit) (Source: EUV)

Country	Date	% Stocked out of All ACTs	N	Comments
Ghana	Oct-Dec 2011	10%	41	
	Jan -Mar 2012	3%	37	
	24-30 June 2012	3%	39	
	24-28 Sept 2012	14%	49	
Malawi	Dec 2011	4%	56	
	Jan -Mar 2012	NA	NA	EUV could not be carried out this quarter
	30 Apr – 4 May 2012	16%	56	
	13-17 Aug 2012	0%	55	
Mozambique	Oct-Dec 2011	0%	10	
	Jan -Mar 2012	0%	13	
	10-29 June 2012	25%	12	
				Fourth quarter report for FY12 is pending
Tanzania	Oct-Dec 2011	6%	308	
	Jan -Mar 2012	24%	297	
	10-16 June 2012	20%	195	
	3-15 Sept 2012	16%	215	
Zambia	Oct-Dec 2011	0%	25	
	Jan -Mar 2012	0%	26	
	April – June 2012	0%	19	
				Fourth quarter report for FY12 is pending
Zimbabwe	11 – 15 June 2012	14%	44	EUV for Zimbabwe commenced June 2012
	17-21 Sept 2012	0%	35	

Note: "Stocked out of all ACTs" indicates an absence of all four AL presentations: AL 6x1, AL 6x2, AL 6x3, and AL 6x4. Data for Ghana are an exception – for the first two quarters, they reflect an absence of all ACTs available in the country, regardless of manufacturer. For the second two quarters, they reflect the absence of only WHO pre-qualified ACTs for all AL and AS/AQ presentations (FDC and co-blister)

This indicator could not be calculated for the following TO7 presence countries, as the requisite data are not reported through an LMIS and/or these countries did not implement the End-Use Verification activity: Burkina Faso, Burundi, Liberia, Madagascar, Nigeria and Rwanda.

INDICATOR 2

Country stockout rate: the percentage of countries experiencing a stockout at the central warehouse(s) at the time of reporting (Source: PPMRm)

October-December 2011

Commodity	% stocked out	N	Countries/States stocked out
AL 6x1	39	18	Angola, Ghana, Nigeria-Benue, Nigeria-Ebonyi, Nigeria-Cross River, Nigeria-Oyo, Nigeria-Zamfara
AL 6x2	32	19	Angola, Nigeria-Benue, Nigeria-Cross River, Nigeria-Ebonyi, Nigeria-Zamfara, Zambia
AL 6x3	32	19	Angola, Nigeria-Benue, Nigeria-Cross River, Nigeria-Ebonyi, Nigeria-Oyo, Nigeria-Zamfara
AL 6x4	32	19	Angola, Ghana, Nigeria-Benue, Nigeria-Cross River, Nigeria-Ebonyi, Nigeria-Zamfara
AS/AQ FDC 25/67.5mg	0	6	
AS/AQ FDC 50/135mg	0	6	
AS/AQ FDC 100/270mg, 3 tabs	0	6	
AS/AQ FDC 100/270mg, 6 tabs	0	6	
SP	42	19	Guinea, Nigeria-Benue, Nigeria-Cross River, Nigeria-Ebonyi, Nigeria-Nassarawa, Nigeria-Zamfara, Uganda
RDTs	11	9	Angola

Jan – March 2012

Commodity	% stocked out	N	Countries/States stocked out
AL 6x1	38	16	Ghana, Nigeria-Bauchi, Nigeria-Ebonyi, Nigeria-Cross River, Nigeria-Oyo, Nigeria-Sokoto
AL 6x2	28	18	Nigeria-Bauchi, Nigeria-Cross River, Nigeria-Ebonyi, Nigeria-Oyo, Nigeria-Zamfara
AL 6x3	25	16	Mozambique, Nigeria-Bauchi, Nigeria-Cross River, Nigeria-Ebonyi, Nigeria-Zamfara
AL 6x4	28	18	Nigeria-Bauchi, Nigeria-Cross River, Nigeria-Ebonyi, Nigeria-Oyo, Nigeria-

Commodity	% stocked out	N	Countries/States stocked out
			Zamfara
AS/AQ FDC 25/67.5mg	0	7	
AS/AQ FDC 50/135mg	14	7	Ghana
AS/AQ FDC 100/270mg, 3 tabs	29	7	Burkina Faso, Ghana
AS/AQ FDC 100/270mg, 6 tabs	0	7	
SP	41	17	Guinea, Nigeria-Benue, Nigeria-Cross River, Nigeria-Ebonyi, Nigeria-Nassarawa, Nigeria-Zamfara, Uganda
RDTs	22	9	Ghana, Guinea

Apr-June 2012

Commodity	% stocked out	N	Countries (States) stocked out
AL 6x1	25	20	Angola, Mali, Nigeria (Bauchi, Ebonyi, Oyo)
AL 6x2	25	20	Angola, Mali, Nigeria (Bauchi, Ebonyi, Oyo)
AL 6x3	25	20	Angola, Ghana, Nigeria (Bauchi, Ebonyi, Oyo)
AL 6x4	25	20	Angola, Mali, Nigeria (Bauchi, Ebonyi, Oyo)
AS/AQ FDC 25/67.5mg	43	7	Burkina Faso, Ghana, Guinea
AS/AQ FDC 50/135mg	14	7	Guinea
AS/AQ FDC 100/270mg, 3 tabs	29	7	Benin, Guinea
AS/AQ FDC 100/270mg, 6 tabs	14	7	Guinea
SP	45	22	Burkina Faso, Guinea, Nigeria (Bauchi, Benue, Cross River, Ebonyi, Nassarawa, Oyo, Sokoto, Zamfara)
RDTs	27	15	Guinea, Liberia, Mali, Nigeria (Bauchi)

July – Sept 2012

Commodity	% stocked out	N	Countries (States) stocked out
AL 6x1	10	21	Ghana, Nigeria (Bauchi)
AL 6x2	0	19	
AL 6x3	5	20	Ghana
AL 6x4	0	20	
AS/AQ FDC 25/67.5mg	38	8	Benin, Ghana, Guinea
AS/AQ FDC 50/135mg	13	8	Guinea
AS/AQ FDC 100/270mg, 3 tabs	25	8	Benin, Guinea
AS/AQ FDC 100/270mg, 6 tabs	13	8	Guinea
SP	10	22	Guinea, Mali, Nigeria (Benue, Cross River, Ebonyi, Nassarawa, Oyo, Sokoto, Zamfara), Zambia
RDTs	0	17	

INDICATOR 3

Functioning LMIS: Percentage of countries where an LMIS is present that routinely collects and reports stock status data (i.e., stock on hand and consumption data) from all SDPs (service delivery points) in the country

Country	Functioning LMIS	Note
Burkina Faso	Yes	<p>There is a combined Logistics and Statistics data reporting system for malaria activities in Burkina. The stock on hand and consumption data are reported on monthly basis from the health facilities (HF) and from the Community Health Workers (CHW). At the district level, the district data manager enters the HF monthly report data into a database designed for malaria activities reporting, and sends the quarterly report file to the central level through the region by internet.</p> <p>The development of the database was funded under Global Fund round 7 grants and implemented in all the districts since December 2010 with technical and financial support from the project.</p> <p>The project provided technical and financial support to the NMCP for monitoring the use of the database in the field.</p>
Ghana	No	Presently, the LMIS in Ghana cannot be described as functional. What data does arrive at the central level is too late to be used for decision making purposes.
Liberia	No	LMIS has been rolled out in Montserrado county. Health facilities are reporting LMIS data once every two months. The roll out to the rest of the counties is on-going and will end in November 2012.

Country	Functioning LMIS	Note
Madagascar	No	<p>Because of restrictions on working directly with the GOM, the Project doesn't directly support the LMIS.</p> <p>The Project mainly works with NGOs and is training providers in completing the LMIS forms.</p>
Malawi	Yes	100 % of health facilities in Malawi are integrated in LMIS reporting. An average of 65% monthly reporting rate was recorded last FY.
Mozambique	No	<p>Mozambique has an LMIS, but it is not comprehensive and does not provide data from all SDPs in the country. There is a paper-based LMIS that includes standard data points such as stock on hand, quantity distributed, quantity requested, etc., and is used by facilities to reorder from the districts monthly. The districts aggregate these orders and order monthly from the provinces. Individual SDP data remains at the district level. Provinces order quarterly from the central level. The percentage of facilities not included in the district aggregations is unknown, as is the percentage of districts not included in the provincial aggregations.</p> <p>An automated system (SIMAM) has been implemented at the central and provincial levels. The system allows for provinces to enter district data (SOH, quantity requisitioned, quantity received) as well as the same data from the provincial level. These data are posted to Drop Boxes visible at the central level. All provinces now use SIMAM when making their quarterly requisitions; however, all provinces do not yet post complete data from the districts.</p>
Nigeria	No	The Malaria Commodity Logistics System has established procedures for receiving and reporting on stock at the facility level.
Rwanda	Yes	Rwanda has a functioning LMIS and over the last year, the project collected, computed, and analyzed malaria commodity data from 30 district pharmacies and 540 health facilities. The reporting rates were 100% for districts and 97.9% for health facilities
Tanzania	No	The integrated Logistics System (ILS) provides for paper-based reporting at all levels of the system. The ILS Gateway is a complementary SMS based data collection tool developed under the USAID DELIVER PROJECT that has been implemented in 1,000 of the 5,000 country's health facilities and is collecting stock on hand data. ILS Gateway will be rolled out to all remaining facilities this year.
Zambia	Yes	EMLIP: Currently active in 25 districts (out of 73) and 476 health facilities.
Zimbabwe	Yes	National rollout of automated (AutoDRV) system for routine collection of LMIS data from SDPs successfully completed. Central LMIS (TOP UP) exists to analyze and report stock status data. TOP UP upgrade in Navision (NatPharm WMS) completed.

INDICATOR 6: Percentage of countries receiving field support TA funds reporting on supply chain performance via the End-Use Verification activity

Country	End-Use carried out by the project	Note
Burkina Faso	No	Although a TO3 presence country, Burkina Faso was not considered a PMI focus country during this fiscal year, and the project has not been tasked with implementing the End-Use activity.
Ghana	Yes	Ghana has been carrying out the End-Use activity quarterly since July 2009
Liberia	NA	Although Liberia does receive TO7 field support, and initially rolled out the End-Use activity for two quarters in FY10, responsibility for the End-Use activity in this country was transferred to the SPS project at the conclusion of FY10, as per the FY10 MOP, and it is thus not included in the denominator for this activity.
Madagascar	No	The End-Use activity has been unable to proceed in Madagascar, as per the prohibition on partnering with the host government.
Malawi	Yes	The project assumed responsibility for the End-Use activity in FY2011, and has carried out quarterly data collection since that time.
Mozambique	Yes	The project successfully began the first round of End-Use Verification in Mozambique at the end of September 2011, and as of reporting, has carried out data collection on two occasions.
Nigeria	No	Nigeria was scheduled to initiate EUV in the latter half of FY12, but was postponed at the request of the Mission, due to travel concerns, and rescheduled for the first quarter of FY13.
Rwanda	NA	Although Rwanda is a TO7 presence country, responsibility for the End-Use activity was transferred to the SPS project, as per the FY10 MOP, and it is thus not included in the denominator for this indicator.
Tanzania	Yes	Tanzania has been carrying out the End-Use activity quarterly since January 2009. During the reporting period, plans were made for an STTA to support revisions to the activity in Tanzania to bring it in line with new requirements.
Zambia	Yes	Zambia has been carrying out the End-Use activity quarterly since November 2009.
Zimbabwe	Yes	EUV was initiated in Zimbabwe in June 2012, and has been carried out twice during the reporting period.

INDICATOR 9: Functioning Coordination Committee: percentage of countries that have a logistics coordination mechanism in place that includes participation of NMCP and CMS (or their equivalents), with a meeting that takes place at a specifically appointed time (e.g., during a reporting quarter)

Country	Functioning Coordination Committee	Note
Burkina Faso	Yes	In Burkina, there is malaria commodities coordination body named "ACT committee" led by the Director General of the Pharmacy Department. During this fiscal year, the committee met on a monthly basis and as often as ACT issues arose. The ACTs and other malaria commodities logistics issues are presented, discussed during the meetings and recommendations made to address them. USAID DELIVER PROJECT provides technical and financial supports to the ACT committee. CAMEG (Central Medical Stores), NMCP, Pharmacy department, and other partners involved in malaria activities are members of this committee.
Ghana	No	The Inter-Coordinating Committee for Contraceptive Security has subcommittees which are concerned with numerous commodities, including malaria.
Liberia	N/A	There is a supply chain technical working group that should meet regularly.
Madagascar	Yes	There are two main committees: 1) Acquisition, Supply & Stock Management Committee (GAS committee) (PSM) committee: fully focused on logistics; meets regularly 2) National Coordination Committee of LLINs nationwide distribution campaign (CNC committee), main focus is not logistics, meets regularly Other committees include: -Roll Back Malaria (Partners/Malaria) - M&E working group of all USAID implementing agencies
Malawi	Yes	4 Technical Working Group (TWG) meetings held. The NMCP Malawi logistics coordination mechanism doesn't function as a specific unit; logistics issues are always listed in the TWG agenda. The meeting is called quarterly and the project is always invited.
Mozambique	Yes	The Malaria Commodities Working Group resumed activity in April and reports quarterly on pipeline status and potential stock status issues.
Nigeria	Yes	Monthly Procurement and Supply Management meetings
Rwanda	Yes	The malaria and other parasites disease division facilitates a stakeholder meeting on a quarterly basis in order to review ongoing malaria related programming activities and upcoming shipments.
Tanzania	Yes	The 'ACT working group' meets on a quarterly basis to discuss all areas around malaria programming, procurements, interventions.

Zambia	Yes	A logistics coordination committee headed by the Drugs and Logistics Officer from NMCC is in place.
Zimbabwe	Yes	The MMSCT Technical and Policy Committee meetings are held quarterly.

INDICATOR 10: Available supply plans: Percentage of countries that have developed supply plans for PMI funded commodities

Country	Available supply plans	Note
Burkina Faso	Yes	There is a quantification team for malaria commodities. The quantification exercise is completed every year with a development of a coordinated supply plan integrating all the partners involved in malaria commodities funding/procurement such as USAID/PMI, UNICEF, Principal Recipients of Global Funds, CAMEG, etc. A yearly supply plan is developed for each malaria commodity. The updated supply plan is always presented and discussed at the ACT committee meeting for validation in presence of all donors involved in funding malaria commodities.
Ghana	Yes	A supply plan is currently being developed in April 2012 during the malaria quantification.
Liberia	Yes	There is a supply plan in place. It was recently reviewed against the current stock status and updated.
Madagascar	Yes	The GAS committee developed the commodities tracking canvas for all partners working in supply chain & procurement but not only PMI. This canvas is composed of orders, delivery and stock central status
Malawi	Yes	The supply plan is developed taking into account the quantification and the donor commitment to supply the country in quantified commodities. PMI funding for ACT supply last FY was initially committed for Community Case management. Procurement planning by PMI for the coming year includes ACT for both CCM and health facility level.
Mozambique	Yes	In a project-organized exercise involving MOH, CMAM, NMCP, PMI, WHO and other partners, antimalarials and RDT needs were quantified for the period of 2012 to 2016, and the corresponding supply plan was developed. The quantification exercise showed that the composition of the kits did not correspond fully to the country's disease profile. The project proposed an adjustment to the composition of the ACTs and the inclusion of RDTs in the same kits. This proposal was accepted by NMCP and will be implemented with the next shipment of ACT to be received.
Nigeria	Yes	PPMRm is updated quarterly and there is a procurement and supply excel tracking tool in country.
Rwanda	Yes	Yes, Rwanda has a national malaria supply plan, but the supply plan is not shared with the project.

Tanzania	Yes	Yes, Tanzania has a national malaria supply plan. The PPMRm is updated regularly, product and funding are tracked and gaps are identified.
Zambia	Yes	Following the 2012-2016 annual forecast and quantification review exercise for malaria commodities undertaken from 15 th -16 th March 2012, a national supply plan for 2012/2013 was developed. The supply plans are for ACTs, RDTs, SP and LLINs using PMI, DFID, GF and MOH funds. It is important to note that Zambia also conducted the first formalized forecast and quantification for LLINs.
Zimbabwe	Yes	National supply plans that inform all MoHCW and partner (including PMI & GFATM) supported procurements updated trimesterly.

INDICATOR II: Number of technical reports or tools developed to support malaria supply chain performance

Country	Number of technical tools	Note
Burkina Faso	0	
Core	1	Development of LMIS tool
Ghana	0	
Liberia	2	Warehousing SOP were developed and was implemented by the National Drug Service.
Madagascar	6	<p>The Project produced training tools & LMIS forms to NGO/FBO to support logistics activities at their central warehouse and of their Health Facilities . These include: (a) the job aid related to malaria case management, (b) the job aid about RDT use process, (c) the adapted RDT manual for Madagascar, (d) the supervision template, (e) the stock card, and (f) the combined order & delivery note form.</p> <p>The households census activity is the paramount activity and bases of all activities' planning for the LLINs nationwide campaign distribution. For that, USAID DELIVER PROJECT proceeded with the reproduction of the households census forms that the CNC worked out based on the recommendations came from the two preceding campaigns for the best and effective use. Indeed, each census worker will take on these forms the number of the people of each visited household and the same forms will be used during the week of distribution for the annotating of the LLINs received. Once compiled all the data of each census forms, it is easy to carry out the positioning of the LLINs for logistics management part.</p>

Malawi	4	<p>The PSC was initially developed upon USAID mission request to ensure the reception, storage and distribution of USG funded commodities. Subsequently, Global Fund requested that its malaria commodities in Malawi should also be managed through the same flow. List of PSC standard reports;</p> <ul style="list-style-type: none"> • PSC Monthly stock status report • Malaria commodities monthly distribution plan • Malaria commodities follow up distribution report (every two days during the delivery process) • Proof of Delivery (POD) • POD reconciliation report • Storage monitoring (internal only) • Financial report <p>In addition, the Project prepares a monthly stock status report for the MOH/HTSS, RHU and NMCP, which includes a pipeline projection using both GFATM and PMI procurement plans.</p>
Mozambique	0	
Nigeria	2	MCLS Excel Data Aggregation Tool, Annual Quantification
Rwanda	3	Each of these tools manages and monitors malaria supply chain performance in Rwanda
Tanzania	11	ILS Gateway, ACT Monitoring Reports (4), Annual Quantification, LMU Technical Report, End Use Verification Reports (4)
Zambia	0	
Zimbabwe	1	Quantification report

Appendix H

Environmental Monitoring and Mitigation Plan (EMMP)

List each Mitigation Measure from column 3 in the EMMP Mitigation Plan (EMMP Part 2 of 3)	Indicator	Status	List any outstanding issues relating to required conditions	Remarks
In cases where the project's role is limited to procurement and delivery to the port of entry, environmental considerations related to the generation and disposal of medical waste will be within the scope of the USAID Mission rather than the Bureau for Global Health. In such instances, the project will seek confirmation of local USAID Mission IEE on file	1. Documented verification of Mission IEE on file	Complete	None	
Consignees for all pharmaceutical drugs and other public health commodities procured under this funding will be advised to store the product according to the information provided on the manufacturer's MSDS	2. Percentage of orders that included product-specific information documenting disposal requirements	100%	None	
Any grants or monetary transfers of USAID funds (e.g., subgrants) to support TO7 procurement, storage, management and disposal activities will incorporate provisions that the activities to be undertaken will comply with the environmental determinations and recommendations of the PIEE	3. Number of instances when DELIVER TO7 has been requested to provide guidelines or training.	1	LLINs will be procured in bulk-packaging for Burkina Faso in FY13, and any relevant mitigation measures will be included in the FY13 semi-annual report.	In Ghana, the project provided technical assistance to USAID/Ghana in the drafting of an EMMP which will be used by implementing partners as a tool for ensuring adherence to mitigation and monitoring practices with regard to collection

				and appropriate disposal of the empty LLIN plastic bags through recycling and high temperature incineration.
If disposal of any pharmaceutical drugs under project control is required, due to expiration date or any other reason, the project will first pursue the preferred method of disposal of returning the product to the manufacturer. If this is not possible, the project will follow the guidelines in the WHO document <i>Guidelines for Safe Disposal of Unwanted Pharmaceuticals During and After Emergencies</i>	4. Percentage of disposed products under project control returned to supplier or dealt with according to WHO guidelines	100%	None	In Malawi a small quantity of ACT treatments under the project's control were removed from stock for disposal because they could not be repacked into the lowest unit of issue which is a pack of 30. A 100% of these were disposed of by the Pharmacy, Medicines and Poisons Board of the government of Malawi according to WHO guidelines.
The project will adhere to WHOPES recommendations and established QA/QC policies when procuring LLINs ¹ . If there is a change or addition to the class of insecticides (currently pyrethroids) acceptable for use with nets, the project EMMP will be adapted to respond to any changes	5. Percentage of LLIN shipments with pre-shipment test reports available	100%	None	

¹ This year the project was asked to update the EMMP to ensure that insecticide treated hammocks were included in the LLIN-specific indicators.

necessary from the PIEE.				
In countries that required that LLINs are registered, all nets procured through TO7 will be registered in the country in which the nets are distributed.	6. Percentage of LLINs procured that are registered in accordance with country policies (if required by the country)	100%	None	
The project will work with manufacturers to ensure appropriate BCC information concerning proper use and disposal of LLINs will be included when nets are provided, including flyers or other information for individuals during distribution campaigns.	7. Recorded instances of assistance provided for development/distribution of BCC materials	0		
The project will adhere to the recommendations identified in the Programmatic Environmental Assessment for Malaria Vector control, dated January 2007, for: <ul style="list-style-type: none"> ○ Procurement ○ Storage ○ Inventory Control ○ Use ○ Waste Disposal 	8. Completion of EMMP Report on a semi-annual and annual basis	Complete as of this report for FY2012	None	

Appendix I

Performance Monitoring Plan (PMP)

USAID | DELIVER PROJECT Task Order Malaria
Performance Monitoring Plan

Outcome	Indicators	Numerator / Denominator	Source	Frequency	Comments	Measures project performance	Measures factors beyond project control
Objective 1. Improve and expand USAID's provision of malaria commodities to programs (50-60 percent LOE)							
Direct procurement services							
Monthly procurement scorecard implemented	Monthly scorecard available which includes the following the indicators: Orders available for shipping on time; Orders shipped on time; Orders received on time; Supplier fill rates; Right quantity received; Goods arrived in right condition	Number of scorecards with 80% of the indicators available / number of months	DelPHi, Management reports	Monthly		X	
Orders shipped on time	Percentage of orders available for shipping within 10 working days of contracted date with the vendors	Number of orders available for shipping within 10 working days of contracted date with the vendor / Total number of orders placed to the vendor	DelPHi	Semi-annual		X	X
Orders received on time	Percentage of orders received by consignee countries within a month of agreed date with the mission	Number of orders received by consignee countries within a month of agreed date with the mission / Total number of orders placed by consignee countries	DelPHi	Semi-annual	The CPIR has been received and the money is available for the order	X	X
Suppliers deliver ordered commodities to satisfy contractual requirements	Supplier fill rate (contracted quantity on time) (by products)	Number of on-time delivery of the agreed upon quantity / Total number of orders placed	DelPHi	Semi-annual	Full quantity means agreed upon quantity with mission at the time of order placement		X
Respond to emergency orders as per PMI/USAID requests	Percentage of emergency orders responded to during the previous 6 months	Number of emergency orders for which a purchase order was placed / number of emergency orders	DelPHi	Semi-annual	The PMI/USAID team must formally acknowledge a request as an "emergency," which signifies initiation of the request	X	
Management information system							
Availability of functioning MIS to USAID PMI staff	Percentage of time the USAID DELIVER PROJECT website is available	Amount of time the USAID DELIVER PROJECT website was available/Total amount of service hours	Performance Metrics Report	Monthly	For service hours see Service Level Agreement	X	
Total number of visits	Total number of visits to the USAID DELIVER PROJECT website	N/A	Performance Metrics Report	Monthly		X	X
Number of logins	Total number of logins for the Oracle Portal	N/A	Performance Metrics Report	Monthly	Logins include MMIS and SDG websites.	X	
Quality assurance and quality control							
Quality assurance and quality control procedures established and implemented	Percentage of LN shipments with pre-shipment test reports available	Number of LN shipments with pre-shipment test report available / Number of LN shipments for which a pre-shipment test report should be available	QA/QC Report Cards, inspection reports, certificates of conformation	Semi-annual		X	
	Median time (in days) and range required for pre-shipment LN tests reports	N/A					X
	Percentage of RDT shipments with up-to-date post-shipment test reports available	Number of RDT shipments with up to date post-shipment test reports available / Number of RDT shipments	QA/QC Report Cards, RDT post-shipment test report, certificates of conformation	Semi-annual	Based on SOPs	X	
	Median time (in days) and range required for up to date post-shipment RDT test reports	N/A					X
	Percentage of pharmaceutical shipments with pre-shipment certificates of conformance	Number of pharmaceutical shipments with pre-shipment certificates of onformance / Number of pharmaceutical shipments	QA/QC Report Cards, certificates of conformation	Semi-annual		X	X
	Median time (in days) and range required for pre-shipment pharmaceutical test reports	N/A					X

Outcome	Indicators	Numerator / Denominator	Source	Frequency	Comments	Measures project performance	Measures factors beyond project control
Objective 2: Strengthen in-country supply systems and capacity for management of malaria commodities (30-40 percent LOE)							
Monitoring of in-country supply chain performance	Facility stockout rate: by product, the percentage of facilities that experienced a stockout on the day of the visit/report	In TO3 presence countries, number of facilities experiencing a stockout of a given product on the date of visit or at the time of reporting / In TO3 presence countries, the total number of facilities reporting via LMIS, or End-Use reports	LMIS, End-Use Verification reports	Semi-annual			X
	Country stockout rate: by product, the percentage of countries experiencing a stockout at the central warehouse(s) at the time of reporting	In TO3 presence countries, number of countries experiencing a stockout of a given product at the central warehouse(s) at time of reporting / In TO3 presence countries, the total number of facilities reporting data for the PPMRm	PPMRm	Semi-annual			X
	Functioning LMIS: Proportion of project-presence countries with an LMIS that routinely reports stock status from SDP level	In TO3 presence countries, number of countries with a functioning LMIS / Total number of TO3 presence countries	Country reports	Semi-annual			X
Respond to STTA needs as per mission requests	Percentage of STTA trips per Mission's or PMI Washington ad hoc request conducted on time (within 14 days of the requested date)	Number of ad hoc STTA requests filled within 14 days of requested date/ Total number of ad hoc STTA requests	Program documents	Semi-annual	Ad hoc is outside of workplan	X	
In-country supply chain data management system developed or improved	Quantity of malaria commodities (LNs, SP tablets, ACT treatments, RDTs) distributed in country using funds obligated to USAID DELIVER PROJECT	N/A	Management reports, Delphi3, LMIS, program records/reports	Semi-annual		X	
	Percentage of countries receiving field support TA funds reporting on supply chain performance via the End-Use Verification Activity	Number of TO3 presence countries participating in the end-use monitoring activities / TO3 presence countries that have been tasked with leading the End-Use activity	End use verification reports	Semi-annual	Countries where the project is leading PMI's end use monitoring	X	X
	Number of individuals trained on the supply chain management of malaria commodities	N/A	Activity reports	Semi-annual	Anyone who was trained other than USAID DELIVER PROJECT staff	X	
	Percentage of countries with field support TA funds reporting central level stock levels of select malaria products in quarterly stock monitoring reports	Number of TO3 presence countries providing data for the PPMRm/Number of TO3 presence countries	Quarterly stock monitoring report	Semi-annual	Countries where the project is leading PMI's PPMRm reporting	X	
	Functioning Coordination Committee: Percentage of countries that have a logistics coordination mechanism in place that includes participation of NMCP and CMS (or their equivalents), with a meeting that takes place at a specifically appointed time (e.g. during a reporting quarter)	Number of TO3 presence countries with a functioning malaria logistics coordination committee / TO3 presence countries	Quarterly country reports	Semi-annual		X	X
	Available supply plans: Percentage of countries that have developed supply plans for PMI funded commodities	Number of TO3 presence countries that have developed supply plans for PMI-funded commodities / TO3 presence countries	Quarterly country reports	Semi-annual		X	X
	Number of technical reports or tools developed to support malaria supply chain performance	N/A	Program reports	Semi-annual		X	
	Objective 3: Improve global supply and availability of malaria commodities (5-7 percent LOE)						
Support global and regional stakeholders/forums of SCM technical issues	Number of global, regional and country level malaria initiatives with DELIVER technical contributions	N/A	Program reports	Semi-annual		X	

Appendix J

Deliverables Status for FY12

Impact Studies: A longitudinal analysis of linkages between child mortality and stockout rates of ACTs	Loren		X						X	X	X	X	X	X	Malawi completed. Angola reviewed - data not available. Rwanda to be completed.
Development of a leakage indicator	Naomi / Kate			X				X	X	X	X	X	X	X	
Document on recommendations for bridging the gap between CMS' and programs	Naomi				X			X	X	X	X	X	X	X	Completed
Regional Meeting	Lisa														Cancelled
End Use								X	X	X	X	X	X	X	Mozambique finished. Zimbabwe finished. Nigeria postponed.
Objective 3															
Final metrics for identifying countries at risk of under or over stock	Lisa	X	X	X											Completed for Q31 to Q3
Feedback reports for countries	Lilia	X	X	X											Completed for Q1 to Q3
Two briefing papers	Chris		X		X		X	X	X	X	X	X	X		Currently addressing PMI's comments on RDT report
Other															
Semi-Annual Report FY12	Greg			X				X	X	X	X	X	X	X	completed
Annual Report FY12	Greg						X	X							

Appendix K

TO7-Funded Short-Term Technical Assistance, October 1, 2011–September 30, 2012

Travel Log

11/12/2012 1:05:41 PM

Filter Criteria: From 10/1/2011 to 9/30/2012

Sort Order: Dates; Name

Does not show vacations, Does not show canceled

Name	Destination	Travel Date	Project	Client	Cncl	TCDC	Date	Date	Date	Date	Activity Code
							Drafted	Approved	Dissem.	Filed	
Amenyah, Johnnie	Tanzania	10/01/11-10/14/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				3/14/2012	13222-2915-0001 15483-2915-0001
Warren, Chris	SE Asia	10/17/11-11/07/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				#####	13250-0001-0003
Alt, David	Washington, D.C.	10/24/11-11/02/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2932-0001 15483-2932-0001
Chovitz, Barry	Washington, D.C.	10/24/11-11/02/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2883-0001 15483-2883-0001
Hauslohner, Peter	Washington, D.C.	10/24/11-11/06/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2890-0001 15483-2890-0001
Pehe, Norbert	Washington, D.C.	10/24/11-11/02/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2899-0001 15483-2899-0001
Proper, Walter	Washington, D.C.	10/24/11-11/02/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2931-0001 15483-2931-0001
Lubinski, David	Zambia	11/12/11-11/20/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				2/24/2012	
Warren, Chris	Angola	11/13/11-12/09/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				#####	15483-2805-0001
Rosche, Sadio	Mozambique	11/17/11-01/02/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2883-0001 15483-2883-0001
Ferguson, Allen	Benin	11/22/11-12/06/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				1/5/2012	13250-2810-4999
Chovitz, Barry	R&R	12/01/11-12/31/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2883-0001 15483-2883-0001
Chovitz, Elina	R&R	12/01/11-12/15/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2883-0001 15483-2883-0001
Howard, Shanon	R&R	12/01/11-12/15/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2883-0001 15483-2883-0001
Martins, Helder	Ghana	12/05/11-12/16/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2846-0001 13250-2846-0001
Hare, Lisa	Kenya	12/11/11-12/17/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-0001-0003
Edah, Parfait	Kenya	12/12/11-12/17/11	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				3/28/2012	13250-2817-0001
Waweru, Jayne	R&R	12/14/11-01/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2871-0001 13250-2871-0001
Kabuya, Nelson	Malawi	12/20/11-01/10/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					15483-2874-0001
Dia, Ousmane	R&R	12/28/11-01/13/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
Gueye, Ndeye Bakha	Tanzania	01/12/12-07/12/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2915-0001 13250-2915-0001
Fabre, Bernard	Home Leave	01/14/12-02/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2890-1111 13222-2890-4444 13250-2890-0001
Lubinski, David	Zambia	01/21/12-01/31/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				2/24/2012	13222-2931-0001 13250-2931-0001

Travel Log

11/12/2012 1:05:41 PM

Filter Criteria: From 10/1/2011 to 9/30/2012

Sort Order: Dates; Name

Does not show vacations, Does not show canceled

Name	Destination	Travel Date	Project	Client	Cncl	TCDC	Date	Date	Date	Date	Activity Code	
							Drafted	Approved	Dissem.	Filed		
Geurink, Mike	Malawi	01/22/12-04/20/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					7/3/2012	13222-2874-0001 13250-2874-0001
Martins, Helder	Mozambique	01/30/12-02/10/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>						13222-2883-0001 15483-2883-0001
Ross, Joseph	Mozambique	01/30/12-02/10/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					3/23/2012	13222-2883-0001 15483-2883-0001
Warren, Chris	Zimbabwe	02/06/12-02/12/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					2/21/2012	13250-0001-0001
Akhlaghi, Laila	Geneva, Switzerland	02/07/12-02/11/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>						13250-0001-0003
Hare, Lisa	Geneva, Switzerland	02/07/12-02/11/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>						13250-0001-0003
Kabuya, Willy	South Africa	02/07/12-02/21/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>						
Olivi, Elena	Burundi	02/16/12-02/25/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/30/2012	13250-2818-0001
Clark, Annie	South Africa	02/17/12-02/27/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>						
Warren, Chris	SE Asia	03/05/12-03/24/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					4/16/2012	13250-0001-0003
Hudgins, Tony	Ghana	03/17/12-04/06/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>						13222-2846-0001 13250-2846-0001
Printz, Naomi	Tanzania	03/19/12-04/07/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					4/19/2012	13222-2915-0001 13250-2915-0001
Shifa, Abdurhaman	Nigeria	03/26/12-04/06/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>						15483-2890-0001
Wolf, Katherine	Burundi	03/26/12-04/13/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/7/2012	
Frost, Mike	Tanzania	04/02/12-04/18/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/17/2012	13222-2915-0001 13250-2915-0001
Chiyaka, Ignatio	Zambia	04/10/12-05/08/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/30/2012	
Dia, Marieme	Zambia	04/15/12-04/27/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					7/5/2012	
Ravelojaona, Aina	Zambia	04/15/12-04/27/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					7/5/2012	
Takang, Eric	Ghana	04/15/12-04/21/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/22/2012	13222-2846-0001 13250-2846-0001
Kena, Addelyn	Washington, D.C.	04/16/12-04/27/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>						
Geurink, Mike	Malawi	04/21/12-06/01/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					7/3/2012	13222-2874-0001 13250-2874-0001
Warren, Chris	South Africa	04/22/12-04/30/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/30/2012	
Olivi, Elena	Burundi	04/23/12-05/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					7/9/2012	13250-2818-0001
Horton, Kelsy	Liberia	04/30/12-05/11/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					9/12/2012	13222-2871-0001 13250-2871-0001
Warren, Chris	Mozambique	05/02/12-05/22/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					6/8/2012	13250-2883-0001
Wilson, Edward	Malawi	05/05/12-05/11/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/21/2012	
Warren, Chris	Malawi	05/06/12-05/11/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/21/2012	

Travel Log

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Filter Criteria: From 10/1/2011 to 9/30/2012

Sort Order: Dates; Name

Does not show vacations, Does not show canceled

Name	Destination	Travel Date	Project	Client	Cncl	TCDC	Date	Date	Date	Date	Activity Code
							Drafted	Approved	Dissem.	Filed	
Diallo, Abdourahman	Nigeria	05/07/12-05/11/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/29/2012
Roche, Greg	Ghana	05/07/12-05/25/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					6/17/2012
											13222-2846-0001
											13250-2846-0001
Amenyah, Johnnie	Ghana	05/14/12-05/25/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					6/17/2012
											13222-2846-0001
											13250-2846-0001
Westfall, Jennifer	Burma	05/18/12-05/24/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					6/4/2012
Warren, Chris	Malawi	05/21/12-05/30/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					5/21/2012
Ferguson, Allen	Angola	05/23/12-06/22/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					7/21/2012
Martins, Helder	Mozambique	05/30/12-06/29/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
											13222-2883-0001
											13250-2883-0001
											36524-1110-1100
Bausell, Loren	Zimbabwe	06/04/12-06/22/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					8/6/2012
Nicodemus, Wendy	R&R	06/09/12-07/08/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
O'Keefe Douglas, Me	Ghana	06/10/12-06/30/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					7/9/2012
											13222-2846-0001
											13250-2846-0001
Sanderson, Jeff	Ghana	06/10/12-06/30/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					7/9/2012
											13222-2846-0001
											13250-2846-0001
Alt, David	Home Leave	06/15/12-08/03/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
											15448-2932-0001
											15483-2932-0001
Alt, Lucille	Home Leave	06/15/12-08/03/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
Alt, Miguel	Home Leave	06/15/12-08/03/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
Durgavich, Anne-Eliz	Home Leave	06/24/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
											13222-2890-1111
											13222-2890-4444
											13250-2890-0001
Durgavich, Grace	Home Leave	06/24/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
											13222-2890-1111
											13222-2890-4444
											13250-2890-0001
Durgavich, John	Home Leave	06/24/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
											13222-2890-0001
											13222-2890-1111
											13250-2890-0001
Durgavich, Mary-Eliz	Home Leave	06/24/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
											13222-2890-1111
											13222-2890-4444
											13250-2890-0001
Durgavich, Virginia	Home Leave	06/24/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
											13222-2890-1111
											13222-2890-4444
											13250-2890-0001

Travel Log

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Filter Criteria: From 10/1/2011 to 9/30/2012

Sort Order: Dates; Name

Does not show vacations, Does not show canceled

Name	Destination	Travel Date	Project	Client	Cncl	TCDC	Date	Date	Date	Date	Activity Code
							Drafted	Approved	Dissem.	Filed	
Clark, Malcolm	R&R	06/26/12-08/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2874-0001
											13222-2874-0002
											13250-2874-0001
											13260-0001-0000
											16542-2874-0002
Ogunnusi, Olayinka	Home Leave	06/28/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2890-1111
											13222-2890-4444
											13250-2890-0001
Ogunnusi, Olujide	Home Leave	06/28/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2890-1111
											13222-2890-4444
											13250-2890-0001
Ogunnusi, Tomi	Home Leave	06/28/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2890-1111
											13222-2890-4444
											13250-2890-0001
Ogunnusi, Tomiwa	Home Leave	06/28/12-08/04/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2890-1111
											13222-2890-4444
											13250-2890-0001
Proper, Mark	R&R	06/29/12-08/06/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2931-0001
											13250-2931-0001
Inglis, Andrew	Washington, D.C.	07/09/12-07/27/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
Warren, Chris	Malawi	07/09/12-07/27/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				8/9/2012	13222-2874-0001
Edah, Chiara Kelsey	R&R	07/12/12-08/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
Edah, Esperance	R&R	07/12/12-08/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2817-0001
Edah, Lorena Akouvi	R&R	07/12/12-08/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2817-0001
Edah, Parfait	R&R	07/12/12-08/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2817-0001
Westfall, Jennifer	Burma	07/13/12-07/20/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				7/23/2012	13250-2895-0001
Bergner, Elizabeth	Mozambique	07/15/12-07/29/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				8/14/2012	
Amenyah, Johnnie	Zimbabwe	07/19/12-08/08/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				8/29/2012	13222-2932-0001
Bahirai, Ellie	Ghana	07/23/12-08/03/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				8/28/2012	
Monteiro, Mercia	Home Leave	07/23/12-08/31/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
Peffer, Dimitri	Home Leave	07/23/12-08/31/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2932-0001
Peffer, Helena-Gabrie	Home Leave	07/23/12-08/31/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
Peffer, Jean-Louis	Home Leave	07/23/12-08/31/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					
Peffer, Robin	Home Leave	07/23/12-08/31/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2932-0001

Travel Log

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Name	Destination	Travel Date	Project	Client	Cncl	TCDC	Date	Date	Date	Date	Activity Code
							Drafted	Approved	Dissem.	Filed	
Ramarijaona, Eric	Ghana	07/23/12-08/03/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				8/28/2012	13222-2846-0001 13250-2846-0001
Rosche, Tim	R&R	08/10/12-09/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2883-0001 13250-2883-0001
Jankowski, Karlan	Zambia	08/11/12-08/25/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2931-0001 13250-2931-0001
Long, Fanny	Burkina Faso	08/11/12-08/27/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2817-0001
Mwencha, Marasi	Tanzania	08/13/12-08/24/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>			9/6/2012		
Ross, Joseph	Tanzania	08/13/12-08/24/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				9/6/2012	
Warren, Chris	Ghana	08/13/12-08/24/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				9/26/2012	
Hudgins, Tony	Vietnam	08/16/12-09/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2895-0001
Hudgins, Tony	Thailand	08/16/12-09/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2895-0001
Hudgins, Tony	Cambodia	08/16/12-09/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2895-0001
Hudgins, Tony	Laos	08/16/12-09/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2895-0001
Kamutenga, Francine	Zimbabwe	08/24/12-08/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2874-0001 13222-2874-0002 13250-2874-0001 13260-0002-0000
Kamutenga, Juliet	Zimbabwe	08/24/12-08/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2874-0001 13222-2874-0002 13250-2874-0001 13260-0002-0000
Kamutenga, Philip	Zimbabwe	08/24/12-09/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2874-0001 13222-2874-0002 13250-2874-0001 13260-0002-0000
Kamutenga, Ryan	Zimbabwe	08/24/12-08/09/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2874-0001 13222-2874-0002 13250-2874-0001 13260-0002-0000
Brenyah, Kwasi	Tanzania	08/28/12-09/06/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2846-0001
Chiyaka, Ignatio	Malawi	09/02/12-09/21/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				9/27/2012	13222-2874-0001
Papworth, David	Zambia	09/02/12-09/18/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13222-2931-0001 13250-2931-0001 16524-1100-1100
Kearl, Rachel	Malawi	09/07/12-09/23/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				9/27/2012	13222-2841-0001 13250-2841-0001
Peltier, Rudolph	DR congo	09/16/12-09/29/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				#####	13250-2827-0001
Wolf, Katherine	DR congo	09/16/12-09/29/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>				#####	13250-2827-0001

Travel Log

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Name	Destination	Travel Date	Project	Client	Cncl	TCDC	Date	Date	Date	Date	Activity Code
							TAR	TAR	TAR	TAR	
							Drafted	Approved	Dissem.	Filed	
Hare, Lisa	Nigeria	09/20/12-09/28/12	DELIVER II	USAID	<input type="checkbox"/>	<input type="checkbox"/>					13250-2890-0001

Appendix L

EUV Summary Table

	GHANA	MALAWI	MOZAMBIQUE	TANZANIA	ZAMBIA	ZIMBABWE
Date of Last Implementation	June 2012	Aug 2012	June 2012	June 2012	June 2012	June 2012
Number of Surveys Completed	12	7 (5 DELIVER, 2 SPS)	3	14	10	1
Frequency of Surveys	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Facility Information**	2460 facilities in the country	Approx. 600 facilities in the country	1262 facilities in the country	4468 facilities in the country	1883 facilities in the country	1409 facilities in the country
Methodology	Finalizing last details on creating a nationally representative sample over the course of year, multi-level stratified random sample (by facility type and district). 95% confidence level (p =.05), with the intention for each indicator, aggregated annually, to have a margin of error of approximately 7.5 percent.	Not designed to be nationally representative, however sampling analysis and revisions are planned to create confidence intervals. The EUV is conducted on a random sample of 2 facilities per district in each of the 56 districts countrywide.	Original plan for nationally representative sample was ultimately not approved by the NMCP. Currently, a mix of random and purposeful sampling, covering all provinces over the course of the year. 2 provinces covered each quarter, with 2 districts randomly selected within each. In each district, the district warehouse is selected, plus one urban health unit, 1 rural health center, and 1 CHW/APE.	Multi-level stratified random sample (by facility type and district), nationally representative for each quarter. 95% confidence level (p =.05), with the intention for each indicator each quarter to have a margin of error of approximately 7 percent.	Not designed to be nationally representative. Three health facilities are randomly selected from each of the ten provinces on a quarterly basis. Revised sampling methodology is planned.	Multi-level, stratified random sample (by facility type and district) across all provinces over the course of four quarters. The sampling plan incorporates a district-level approach into sampling, pulling a proportional selection (proportion to the number of facilities) of random districts from each province, and randomly samples a minimum of 154 treating facilities across these districts, over the course of four quarters. This methodology allows for a 95% confidence level (p=.05), with the intention for each indicator, aggregated annually, to have a margin of error of 7.5%
Number of Sites	Latest EUV visited 39 treating facilities and 3 warehouses	Latest EUV visited 56 facilities	Latest EUV surveyed 21 facilities	Latest EUV surveyed 195 facilities	20	40+
PMI Involvement	PMI advisor informed about the activity and the selected regions for each round and provided with reports. Advisors have participated in one round of data collection.	The PMI advisor participated in field visits during 2 rounds of EUV data collection. The advisors are very interested in EUV results and contribute to follow-up discussions on issues identified.	Participate in data collection, briefings at HU, District, Province and central level; provide support in supervision report for the provinces and central level; participate in supply chain trainings; and OJT during the supervision when find problems and/or deviations.	PMI advisors have once participated in data collection and orientation training. Quarterly, briefings take place during technical working group meetings, and reports are shared.	The PMI advisor receives and reviews EUV reports.	The PMI advisors have attended briefings on implementation of the activity and findings and have expressed in writing their appreciation for the activity and its actionable information.
Level of Follow-up	Urgent distribution of stock to regions and SDPs following EUV findings - Identified knowledge gaps in supply chain - Influenced the selection of personnel, facilities, and regions for supply chain trainings and organized trainings- Informed the development of a Supply Chain Master Plan for the entire health sector	In May, the EUV confirmed the increase in facilities stocked out of ACTs. Both project and mission recommended an in-depth analysis of causes and put in place mechanisms to reduce stock outs.	Rebalancing of ACT kits: A policy change is underway that includes distributing RDTs jointly with ACTs and redefining the proportion of ACTs in kits. Regional presence: SCMS and Deliver are engaged in discussion with USAID/Mozambique to put in place regional technical advisors (indeed we are moving on).	Communication facilitated between respective district pharmacists and MSD Zones to resupply stock. Ensuring ACT commodities arriving in country are cleared on a timely basis, and are pushed down immediately upon arrival to avoid facility stock outs. MOHSW now depends on EUV commodity stock out information for its forecasts, and EUV experience resulted in revisiting the report R&R form and adding a stock out column.	Stock out turnaround time has been reduced. In addition, follow ups by the NMCC have resulted in increased adherence to use of RDTs for malaria case confirmation. Use of microscopy has also been scaled up.	With knowledge of stock outs, redistribution and immediate delivery of commodities to affected facilities took place. Management level discussions have begun among key stakeholders regarding how to better supply facilities and manage malaria cases in the long term.

Cost of EUV	\$18,000 per quarter	\$22,000 per quarter	\$25 - \$30,000 per quarter	\$40,000 per quarter (estimated cost based on new sampling strategy)	\$46,000 (combined with routine M&E. Funding is split, with PMI funds being used for approx \$4,600)	\$27,500
Other organizations or institutions providing funding for EUV	Costs are split between Task Orders 7 and 4 of the USAID DELIVER PROJECT	NMCP provides vehicles	None	Costs are split between Task Orders 7 and 4 of the USAID DELIVER PROJECT	End-Use is carried out as part of routine M&E, funded as follows: PMI/TO7 10%; TO4 81% SCMS 9%	None
Other organizations or institutions involved in EUV implementation	Stores, Supplies and Drugs Management (SSDM), NMCP, Pharmacy unit, Disease control unit, Family Health Division (FHD), National Tuberculosis Control Program (NTCP), National AIDS Control Program (NACP) and the Centre for Health Information Management(CHIM). They assist in the data collection on the field, while doing supportive supervision and OJT at the visited facilities.	NCMP	NMCP and Central de Medicamentos e Artigos Medicos (CMAM) both provide data collectors each quarter. NMCP provides supervision of the EUV.	NMCP and the Pharmaceutical Services Section (PSS) both provide MOHSW personnel on quarterly basis to collect end use data. District malaria focal persons and district pharmacists perform data collection as well.	MOH [Provincial and district medical offices] provide staff to accompany field office staff and are actively involved in data collection.	Ministry of Health Child Welfare (MOHCW) NMCP and MOHCW Directorate of Pharmacy Services, as well as Provincial Pharmacy Managers and Provincial Epidemiology and Disease Control Officers participated in EUV training and tool development; as data collectors, and in discussions of findings.
Other products included in survey	Includes malaria, ARV, TB, FP and other commodities. 40 in total.	In addition to malaria commodities: Paracetamol 500 mg, oxytocin, male and female condoms, Unigold, Deter HIV	In addition to malaria commodities: Cotrimoxazole, Paracetamol, Microgynon, Microlut, Depo-Provera, IUD, malre condoms	In addition to malaria commodities, 8 reproductive health commodities and 10 essential medicines	In addition to malaria commodities: male condoms, Depo-Provera, OralconF, Amoxicillin suspension, Benzyk Penicillin inj, Cotrimoxazole 480mg, Metronidazole 200 mg	All malaria commodities
Other Information						

Appendix M

EUV Commodities Collected by Country

PRODUCT	Ghana	Malawi	Mozambique	Tanzania	Zambia	Zimbabwe
Albendazole (200 mg) tablet	♦			♦		
Amoxicillin	♦		♦	♦	♦	
Artemeter-Lumefantrine (AL) 1x6	♦	♦	♦	♦	♦	♦
Artemeter-Lumefantrine (AL) 2x6	♦	♦	♦	♦	♦	♦
Artemeter-Lumefantrine (AL) 3x6	♦	♦	♦	♦	♦	♦
Artemeter-Lumefantrine (AL) 4x6	♦	♦	♦	♦	♦	♦
Artemether Injection	♦					
Artemether Suppository	♦					
AS/AQ 12+12	♦					
AS/AQ 3+3	♦					
AS/AQ 6+6	♦					
ASAQ 3 tabs 100/270mg		♦				
ASAQ 3 tabs 25/67.5mg		♦				
ASAQ 3 tabs 50/135mg		♦				
ASAQ 6 tabs 100/270mg		♦				
Benzyl Penicillin Inj.					♦	
Categories 1 & 3 (Kit)	♦					
Category 2 (Kit)	♦					
Clindamycin (capsule)						♦
Combivir	♦					
Copper T IUD	♦					
Cotrimoxazole	♦		♦	♦	♦	
DepoProvera	♦	♦	♦	♦	♦	
Deter HIV		♦				
Dextrose 5% (500 ml)				♦		

Diazepam	◆			◆		
DiHydroate-Misinin-Piperaquine (DHP Tab)	◆					
Doxycyclin (tablet/capsule)						◆
Female Condoms	◆	◆				
Ferrous Folic Acid tablet				◆		
First Response (Test)	◆					
Implants		◆		◆		
IUD			◆	◆		
Jadelle	◆					
Lo-Femeral	◆					
Long-life insecticide-treated net (LLIN)			◆			
Magnesium Sulphate Injection				◆		
Malaria RDT	◆	◆	◆	◆	◆	◆
Male Condoms	◆	◆	◆	◆	◆	
Metronidazole 200mg tabs					◆	
Microgynon	◆		◆	◆		
Microlut			◆			
Misoprostol Tablets				◆		
Nevirapine 200mg	◆					
Norigynon	◆					
OralconF (Levonorgestrel/Ethinylestradiol)					◆	
Oraquick HIV (Test)	◆					
ORS sachet	◆			◆		
Ovrette	◆					
Oxytocin		◆		◆		
Paracetamol (syrup)	◆					

Paracetamol suspension	◆		◆			
Paracetamol tablet		◆	◆	◆		
Pregnon 2	◆					
Progestin-only (Microval/Microlut)				◆		
Quinine injection	◆	◆	◆	◆	◆	◆
Quinine tablets	◆	◆	◆	◆	◆	◆
Slides for microscopy						◆
Sulphadoxine / Pyrimethamine (SP)	◆	◆	◆	◆	◆	◆
Uni-Gold		◆				

◆	Malaria
◆	Reproductive Health
◆	Essential Medicines
◆	ARV
◆	TB

For more information, please visit deliver.jsi.com.

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